

**FY2012 SCBGP-FB  
Final Performance Report  
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**PROJECT COORDINATOR:**

SOUTH DAKOTA DEPARTMENT OF AGRICULTURE

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## **Project 1**

**Title** – Adding to the Harvest – Reducing the Risk of Unsafe Food Handling Practices While Enhancing the Marketability of Specialty Crops

**Subrantee:** South Dakota State University

**Contact Person** – Joan Hegerfeld Baker | 605-688- |

## **Final Report**

### **Project Summary**

Specialty crop growers and processors strive to enhance the marketability of their product by addressing safe food handling risks critical to their product.

The Adding to the Harvest Specialty Crops Grant Proposal included the following components to assist specialty crops growers and processors in meeting food safety standards:

- Food Preservation Mentor Program (FPMP) -- Self-studies delivered through Internet to assist growers in meeting the standards to achieve verification of a safe processing method. Focus on tested and recommended safe food handling practices of fresh produce before and at the market, and food processing/preservation.
- Creation of a Food Entrepreneurial Resource Guide to be available in both booklet and web-based.
- An FDA Approved Acidified Workshop – growers can be expand into retail markets through utilization of a licensed commercial facility and/or having their “scheduled process” meet FDA regulations.

### **Project Approach**

#### **Food Preservation Mentor Program (FPMP)**

The face-to-face portion of the program was developed and delivered across South Dakota in the first 18 months of the project. The following year, the online portion of the FPMP was developed. It is now available through the South Dakota Board of Regents online course delivery system, D2L.

To date, 128 individuals have completed the FPMP workshops. On a scale of 1 to 5 the participants rated the workshop as 4.7 (exceptional).

The online version has been fully operational since March 4<sup>th</sup>, 2015 when it was beta-tested by seven South Dakota State University Students (only one student had prior experience in home food preservation methods). These students were paid an hourly stipend to complete the course and track the amount of time to complete each module. The time to complete the entire module ranged from four to five hours. They also identified any problems with the online course including typographical errors, unclear information and technical issues. Following minor revisions, the course was fully launched. Promotional materials to promote the FPMP have been distributed across the state to targeted areas such as businesses that sell home canning equipment, trained mentors and Extension offices. **This program is fully developed and sustainable!**

To learn more about the online FPMP refer to “additional information” at the end of this report.

## **Video Production**

With funding from the SD Specialty Crops Block Grant and SDSU Extension Funds the following videos were produced:

Home Food Preservation and pH

<https://www.youtube.com/watch?v=PnK7eKRevEY>

Jars Lids and Utensils

<https://www.youtube.com/watch?v=gLd4sGf6gOI&list=PLlIdDb7IZYqKF2pUcGjsmbqJtd96-QLGo&index=13>

Adjusting for Altitude

<https://www.youtube.com/watch?v=yeFW1Lo9p7Q>

Types of Boiling Water Bath Canners

<https://www.youtube.com/watch?v=87oeYHYAE04&list=PLlIdDb7IZYqKF2pUcGjsmbqJtd96-QLGo&index=12>

Using Boiling Water Bath Canner

<https://www.youtube.com/watch?v=kiToUBkWOTE&index=9&list=PLlIdDb7IZYqKF2pUcGjsmbqJtd96-QLGo>

Types of Pressure Canners

<https://www.youtube.com/watch?v=563XO4Ehz0E&list=PLlIdDb7IZYqKF2pUcGjsmbqJtd96-QLGo&index=11>

Using a Pressure Canner

<https://www.youtube.com/watch?v=ySVfEsR20QU&list=PLlIdDb7IZYqKF2pUcGjsmbqJtd96-QLGo&index=10>

Canning tomatoes

<https://www.youtube.com/watch?v=oR6aAi4JdXg&index=1&list=PLlIdDb7IZYqKF2pUcGjsmbqJtd96-QLGo>

Blanching for Freezing Vegetables & Fruits

<https://www.youtube.com/watch?v=jIFM7fgfbyM&index=2&list=PLlIdDb7IZYqKF2pUcGjsmbqJtd96-QLGo>

Measuring pH of Salsa

<https://www.youtube.com/watch?v=2nnl6PXKLjs>

Calibrating a pH Meter

<https://www.youtube.com/watch?v=aNaUKGWNAKs>

## **Farmers Market Resource Manual**

To help address the needs of growers, community members and directors of farmers markets, the iGrow Farmers Market Resource Manual was published by SDSU Extension. The manual was submitted to the SD Department of Agriculture with this report. The book has been available through the SDSU Extension website since April 2015.

Topics covered within the book's 10 chapters (184 pages) include:

- Steps for founding a new farmers market
- Developing vision and mission statements
- Drafting Documents: Market rules, association by-laws and vendor applications
- Decisions for operation
- Risk management considerations
- Promotion opportunities
- Accepting electronic purchases and SNAP
- Food handling and safety
- Food product regulations
- Tips for successful vendors

This manual will be promoted in the future through various organizations, including but not limited to SD Local Foods Conference, SD Chamber of Commerce, SD state agencies – Economic Development, Agriculture, Health, Health and Human Services, FFA, National meetings and organizations; Tribal Government and others.

Only one chapter is specific to South Dakota, the chapter addressing regulations. Therefore, this manual will be promoted beyond the borders of South Dakota.

As the manual was developed it was placed on the South Dakota Local Foods website. In 2015 over 4500 people visited the online version of the Farmers Market Manual.

### **Goals and Outcomes Achieved**

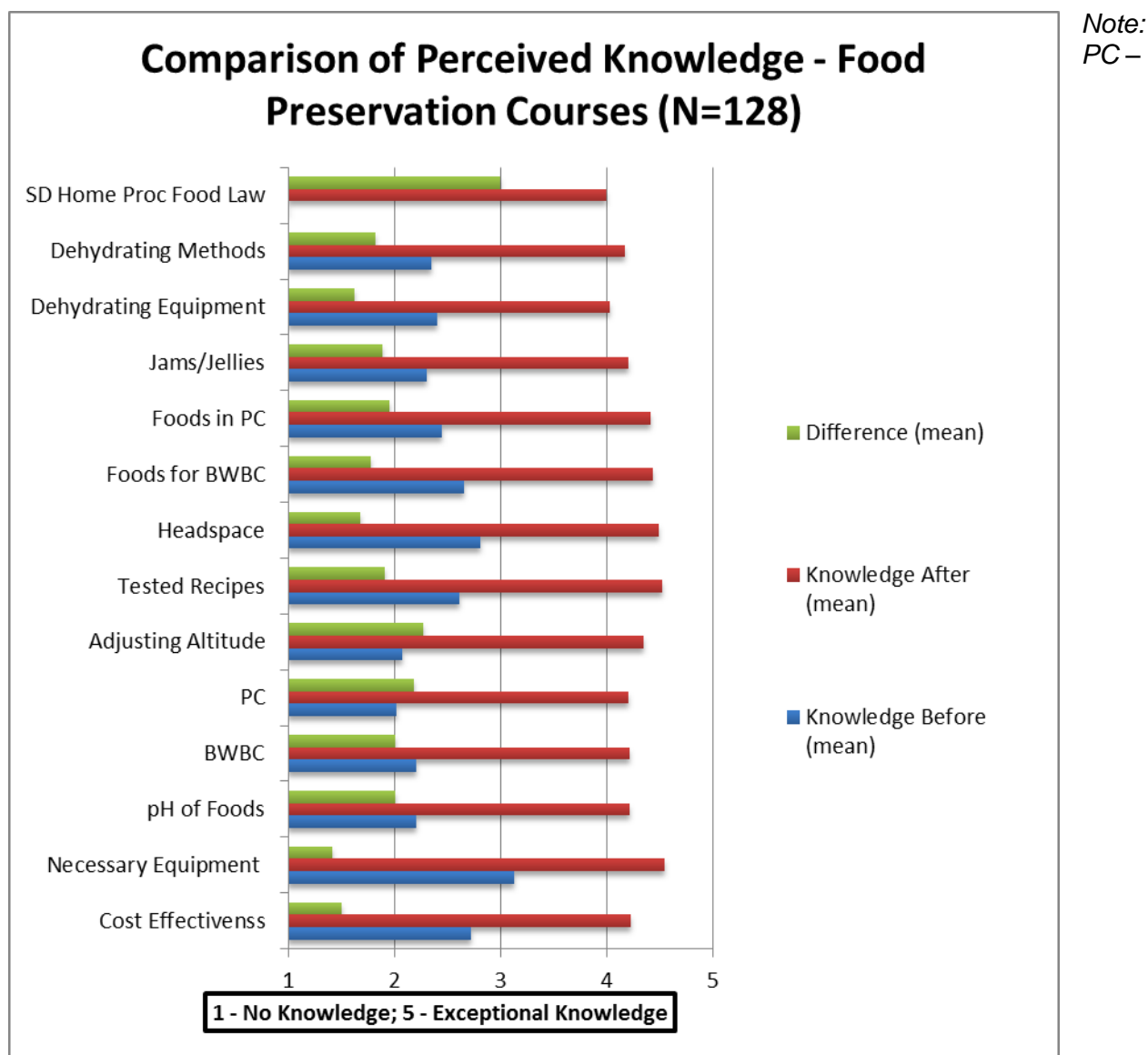
#### **Goal #1:**

**Citizens of South Dakota will increase knowledge and adopt food preservation practices that meet the USDA recommended standards, and regulations for marketing in South Dakota.**

#### **Outcomes:**

All participants continually identified an increase in perceived knowledge before and after food preservation courses. Through increased knowledge home food processors are better equipped to adopt recommended food safety practices and reduce the foodborne illness risks associated with unsafe preservation methods. Refer to the charts below regarding changes in perceived knowledge.

#### **Figure 1**

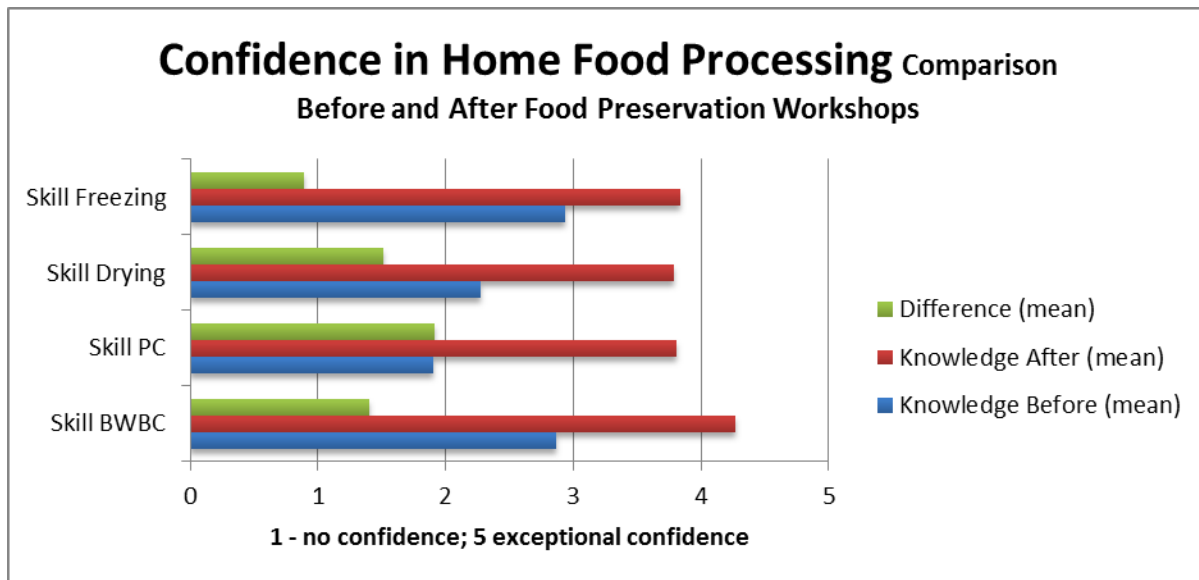


*Pressure Canning; BWBC – Boiling Water Bath Canner*

#### Changes in Confidence using Food Preservation Methods (Figure 2):

After completing the face-to-face classroom training as well as the hands-on training session, the participants were asked to compare their perceived confidence level on a scale of one to five. The participants did not experience an actual hands-on session for dehydrating and freezing. However, they did use a boiling water bath and pressure canner. Participants learned to pressure can, since they can share with consumer's information on how to safely process low-acid vegetables, which are a specialty crop.

**Figure 2**



*Note: PC – Pressure Canner; BWBC – Boiling Water Bath Canner*

The online class version had similar results when comparing perceived knowledge and confidence. However, the sample size was much smaller (n=9) therefore statistical significance could not be determined. All the results in Figures 1 and 2 were statistically significant at an alpha level of .05. Therefore one could conclude that a person completing a food preservation workshop would identify an increase in knowledge and confidence.

#### **Trained and Active Food Preservation Mentors:**

To date fifteen people have identified a willingness to serve as mentors after completing the FPMP. They maintain a close contact with Lavonne Meyer and Joan Hegerfeld-Baker to assist them with the many activities they are involved in. Examples of their activities include, but not limited to, the following:

- Home food preservation courses have been offered by food preservation mentors in the following communities in South Dakota: Rapid City (Western Community Action and South Dakota Discovery Center); Watertown; Sioux Falls (through the Adult Community Ed Classes); Pierre; Sisseton, Eagle butte, Freeman, Kennebec, Platte, Mound City, Hetland and Draper. The mentors thoroughly enjoy sharing their knowledge and putting on workshops where people come and learn safe canning methods.
- Six different businesses (includes four franchises) in South Dakota selling canning equipment had store employees complete the food preservation mentor program. These employees now assist customers with canning questions and improve the purchasing strategy for the equipment they sell. They can now better serve their customers.
- Assist Lavonne Meyer with conducting food preservation workshops to train future mentors. Mentors have taken a day off work to assist Meyers when offering courses in Sioux Falls, Pierre and Watertown.
- Handout fact-sheets with tested recipes and connect home canners to credible websites.
- Developed their own power point presentations to use when putting on a food preservation class in their community.

SDSU Extension has identified this program to be sustainable through the Volunteer Management position that will oversee the Master Gardener and Food Preservation Mentor Program. Additionally, other state extension programs have contacted SDSU Extension food safety specialists to use this program model and more specifically the videos in their food preservation education programs. Within one month's time, over 1300 people have viewed at least one of the food preservation videos on-line.

## **Goal #2**

**Specialty crops growers and processors in South Dakota will improve their ability to navigate government agencies and other organizations to address not only the safety of the food product, but also revenue regulations, financial resources, and others.**

### **Outcomes:**

In three months time the farmers market manual has been distributed to 40 partners that work directly with specialty crop growers and community planners involved with specialty crops growers. An additional thirteen copies of the manual have been distributed to people ordering the manual from the SDSU Extension iGrow web-based store (<http://igrow.org/product/igrow-farmers-market-resource-manual/>).

As the manual was developed it was placed on the South Dakota Local Foods website (<http://igrow.org/community-development/local-foods/south-dakota-farmers-market-online-guidebook/>). In 2015 over 4500 people visited the online version of the Farmers Market Manual. The online manual was the top web-page accessed in the Community Development domain of the SDSU Extension iGrow website. The online version is continually updated by Extension specialists and partners therefore making this a sustainable program.

Additional evaluation related to the impact of the manual on the creation and enhancement of farmers markets will be carried out at the South Dakota Local Foods Conference in November 2015.

## **Goal #3**

**Specialty growers/processors will improve their ability to add value to specialty crops through acidification and processing of foods while meeting the regulatory standards that will allow them to increase their market.**

### **Outcome:**

After the grant was awarded, the United States FDA office out of Minneapolis informed Joan Hegerfeld-Baker that they could not provide an FDA trainer to South Dakota for an acidified food course. Other options were explored to offer an FDA approved course in South Dakota, but the cost was too great. The funding in the budget to offer the course was not spent.

Recently Joan Hegerfeld-Baker, Food Safety Specialist, had a conversation with her colleague from Wisconsin. Wisconsin Extension offers an acidified food workshop that could serve as a model for SDSU Extension to provide to food entrepreneurs in the future. The need for this type of a program is still strong in South Dakota with several acidified home food processors exploring opportunities to process using hot-hold and fill methods as well as marketing in retail establishments and online.

## **Beneficiaries**

The primary beneficiary of this overall program is the consumer with an increased access to locally grown specialty crops, more specifically:

- All consumers across the nation that are home-canning specialty crops.
- Growers adding value to their product and selling home processed acid and acidified foods at farmers markets in SD.
- Food Preservation Mentors – continued access and support through SDSU Extension when teaching others how to home preserve.
- Businesses that sell home canning products have a credible source of information to share with their customers.
- Farmers Market vendors and directors.
- Communities that are striving to improve access of specialty crops to the consumers in their area.
- Communities striving to enhance their economies through direct to consumer food marketing.

### **Lessons Learned**

The specialty crops block grant has served as an amazing tool to address the needs for growers, marketers and communities. The goals and program plan are fully addressed in the proposal process therefore committing to a successful outcome.

Many state agencies and organizations that work with local growers and processors across South Dakota were very helpful in creating the Farmers Market Resource Manual. They recognized the need and were very willing to share their expertise in reviewing or writing various sections in the manual.

Regulations can change and the challenge to offer a FDA approved acidified food course could not be overcome.

### **Contact Person**

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## **Additional Information**

**Learn more about the course with one of the following options:**

**1) Registration:** To register, visit the link below, select the appropriate registration option, and then choose the [SDSU Campanile Open Learning: Home Food Preservation Self-Study](#) course link.



**2)** Refer to the following SDSU Extension news release describing the program and recruiting participants.

NEWS RELEASE from SDSU Extension on iGrow  
**Online and Hands-on Food Preservation Courses**  
***Posted Wednesday, May 13th, 2015 by SDSU iGrow***

**BROOKINGS, S.D.** - SDSU Extension recently modified its Food Preservation Mentor Program. What was a day-long course now includes online self-study courses and a half-day of hands-on canning with SDSU Extension staff.

Hands-on canning sessions will be hosted statewide beginning June 2, 2015.

"Today, everyone is so busy. This training fits better into our participants' lives," explained **Lavonne Meyer**, SDSU Extension Food Safety Field Specialist.

She explains that the online course modules, which include short videos and factsheets, are concise and designed for participants to fit into their schedule however works best for them. The hands-on canning sessions allow participants the opportunity to ask SDSU Extension staff questions in a comfortable environment while gaining the confidence through accomplishment.

Meyer will host the five Food Preservation hands-on canning sessions with **Joan Hegerfeld-Baker**, SDSU Extension Food Safety Specialist and SDSU Assistant Professor or a trained Food Preservation Mentor.

Before its online launch, Hegerfeld-Baker asked a class of college students to test the online portion of the program. Only one student had prior experience canning. "We wanted to make sure that the online portion of the program would not overwhelm first-time canners," Hegerfeld-Baker said. "The students' said the factsheets and videos worked together well and did not take long to complete."

She added that participants can choose either or both of the programs: online modules or attend a hands-on session. They compliment one another very well. However, if they want to receive certification as a Food Preservation Mentor, participants must complete both portions of the program.

### **Hands-on Canning Sessions Begin June 2**

The hands-on portion of the course includes training in the following: 1) Canning an acidified or acid food in a boiling water bath canner; 2) Canning a low-acid vegetable in a pressure canner; and 3) Canning jelly or jam in a boiling water bath canner.

Before attending the hands-on portion of the course, participants are encouraged to complete the online self-study modules however anyone interested in canning is invited to attend, even if they have not completed the online modules. Participants must be 16 or older to attend.

### **Dates**

**Redfield:** June 2, 1 p.m. to 5 p.m. (CDT) at the Redfield High School (502 E. 2nd St.);

**Watertown:** June 3, 1 p.m. to 5 p.m. (CDT) at the Codington County Extension Office (1910 W. Kemp Ave.)

**Sioux Falls:** June 11, 1 p.m. to 5 p.m. (CDT) at the SDSU Extension Regional Center (2001 East 8th Street)

**Chamberlain:** June 16, 5 p.m. to 9 p.m. (CDT) at St. Joseph's Indian School (1301 N. Main Street)

**Rapid City:** June 18, 5 p.m. to 9 p.m. (MT) Pennington County Extension - Walter Taylor Building (601 E. Centre)

### **Registration:**

Registration for the hands-on portion of this program is \$35. To register, visit the [\*\*iGrow events page\*\*](#) or contact [\*\*Lavonne Meyer\*\*](#) at 605.782.3290.

### **Online Modules**

There is no cost to access the online modules. Simply go to the [\*\*iGrow website\*\*](#) and click on Healthy Families - Food Safety. There you will find the "Home Food Preservation Self-Study Course." Register to access the course and begin learning the basics of home canning along with access to many tested recipes. Complete the whole course or pick and choose the learning activities you are most interested in.

### **Home Food Processor Track**

**Module 1:** General Canning Principles which includes information on the following: Using Heat Process; pH of foods; Boiling Water Bath and Pressure Canning; and Adjusting for Altitude.

**Module 2:** Canning Equipment which includes information on the following: Types of Canners; Jars, Lids, and Utensils; Using a Boiling Water Bath Canner; and Using a Pressure Canner.

**Module 3:** Acid Foods which includes information on the following: Fruits; Pie Filling; Fruit Syrups; and Jams and Jellies.

**Module 4:** Acidified Foods which includes information on the following: Acidifying Low-Acid Foods; Tomatoes and Tomato Products; Fermentation; and Pickling.

**Module 5:** Low Acid Foods which includes information on the following: Vegetables; Meats; and Soups, Stews, and Legumes.

**Module 6:** Freezing Foods which includes information on the following: Fruits; Vegetables and Meats.

Complete the modules that are of interest to you. If all modules are completed along with an evaluation, a certificate of completion is presented to you.

### **South Dakota Home Food Processing Mentor Track**

In addition to the Home Food Processor Track modules listed above, Module 7: Becoming a Food Preservation Mentor; must be completed if you are interested in becoming a mentor.

Home Food Preservation Mentors are individuals who are willing to reach out to individuals in their community who want to know more about safe home food preservation practices.

Completing these courses is not a commitment to be a recognized mentor; however completing the hands-on training is a requirement to become a mentor.

This program is supported in part by the USDA Specialty Crop Block Grant Program (# 12-25-B-1487) through the South Dakota Department of Agriculture. Its contents are solely the responsibility of the authors and do not necessarily represent the official views of the USDA.

To learn more, contact **Lavonne Meyer** at 605.782.3290 or **Joan Hegerfeld-Baker** at 605.688.6233.

## **Project 2**

**Title** – State Fair Wine Pavilion

**Contact Person** – Jodi Bechard | 605-773-5711 | jodi.bechard@state.sd.us

### **Final Report** (Previously Submitted Final Report)

#### **Project Summary**

Wine production has actually increased from no commercial production only 15 years ago to an estimated 98,000 gallons in 2012. The value-added and experience based marketing components of wine is the engine that drives additional specialty crop production including grapes, berries, apples, pears, etc. Without the wine promotion and education, the specialty crop industry will be destined to suffer much slower growth that will plateau when the nearby markets are saturated.

The promotional elements of the project are targeted to the consumer, providing a one-of-a-kind opportunity to sample wines from nearly every winery from across the state. Many of the customers are not aware of the quality and diversity of wines produced and may not even know that we have a fledgling wine industry. The second target of these efforts is the specialty producers. Participating wineries are there to show off the final product, talk to specialty producers, and network with resource personnel.

#### **Project Approach**

The South Dakota Department of Agriculture along with the South Dakota wine industry hosted the SD Wine Pavilion at the 2013 SD State Fair. This is the seventh year we have held a wine pavilion at the State Fair. It has been very successful based on the number of people attending the wine pavilion and tasting South Dakota wines. Anecdotally we have also heard good comments from the participants, who ask us to bring the pavilion back to the fair every year. We also have many repeat customers. The South Dakota Winegrowers Association has also stated that this is the most successful event they participate in.

SDDA hired a contractor to plan the wine pavilion, including contacting wineries, hiring staff, promoting the event, etc. SDDA and the event contractor hold regular conference calls to keep the project on track. The contractor is responsible for hiring staff, ascertaining any required licenses, providing financial accounting and inventory systems, and working with the wineries to discuss participation and available wines.

SDDA provides oversight and approval of contractor's activities.

The wine pavilion took place during the South Dakota State Fair on August 29 – September 2, 2013. Eleven South Dakota wineries participated in the five day event. The event is set up so that consumers can sample a variety of South Dakota wines. We had 30 varieties of wine

available and had all of them available every day for consumers to sample. We had five regular tasting stations set up – each one featuring a different type of wine (red, sweet red, white and 2 fruit stations). Professional staff describe and sample the wine to consumers.

We also partnered with various commodity organizations to pair the wine with South Dakota food including beef, pork, turkey, cheese and lamb. We made an increased effort to pair wine with South Dakota cheese this year. All food paired with the wine was donated by various commodity groups, organizations and businesses. We had cheese available from each of the state's seven cheese manufacturers. We worked with the SD Beef Industry Council, South Dakota Pork Producers Council, Dakota Provisions, Midwest Dairy Association and the South Dakota Sheepgrowers Association. All food paired with the wine was donated and no Specialty Crop Block Grant funds were used for purchasing food.

Once consumers sample the wine, there is a retail area where they can purchase wines by the glass to enjoy in the wine garden; or they can purchase a bottle of wine to take home with them.

We had over 3,500 people visit the wine pavilion and sample SD wine. We counted people by the number of tasting tickets that were purchased. There were certainly other people who walked through the wine pavilion but did not sample wine. We do not have an accurate way to count those people.

The wines at the event represented the following specialty crops: grapes, aronia berries, cherries, crab apples, rhubarb, raspberries, apples, black currants, strawberries, cranberries, honey, and peaches.

### **Goals and Outcomes Achieved**

We surveyed attendees at the Wine Pavilion. The survey asked questions such as “Has the South Dakota Wine Pavilion increased your awareness of South Dakota wines?” and “How important is it to you to have an option to buy wines made in South Dakota?” along with demographic and purchasing decisions. The surveys showed that 58% of people thought it was important to have the option to buy wines made in South Dakota. The Wine Pavilion has increased 93% of people's awareness of South Dakota wines.

### **Beneficiaries**

It is hard to calculate the exact impact that the Wine Pavilion has on the wineries involved, but the wineries have indicated that the Wine Pavilion brings many new and previous customers to their locations. The Wine Pavilion doesn't only benefit the wineries around the state, but also the local cheese and meat processing plants that are showcased in the Pavilion alongside the wines.

### **Lessons Learned**

This has been a very beneficial project for South Dakota's wine industry. Some of the lessons we have learned along the way include keeping the activities of the wine pavilion simple and focused. There are many activities and other opportunities that can be added along and for each of them, we have asked the question, “Will this help enhance South Dakota's specialty crop and wine industries?” If the answer is no or if that activity will take the focus off of the wine industry, then we don't add those additional activities or opportunities.

We have also learned that having the right partnerships greatly enhances this event. State Fair staff have been fantastic to work with; the wineries have been great to work with and accommodating of changes we have made. Other industry groups have also helped us increase the value of the wine pavilion to our guests.

### **Contact Person**

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### **Project 3**

**Title –** SD Specialty Producers

**Subgrantee:** South Dakota Specialty Producers Association

**Contact Person –** Pat Garrity | 605-660-1034 | [garrity@iw.net](mailto:garrity@iw.net)

### **Final Report**

#### **PROJECT SUMMARY**

Since its inception more than 10 years ago, South Dakota Specialty Producers Association (SDSPA) needed a conveyance to assist them with the development of the network of similar specialty crop producers, individual and commercial customers, resource providers, and their individual businesses. The dynamic nature of the membership and leadership presents challenges to the continuity of work to accomplish the goals set forth.

Although SD is a rural state with a strong agriculture component, production of healthy fruits, vegetables and related products had not been the primary agricultural focus. In addition, an increased interest in healthy local foods has increased demand for fruits and vegetables that is not being met within the state. Because of the increase in interest from consumers, more and more producers and potential producers are looking at growing specialty crops. Production is not dependent upon urban centers for success. Even some of the smallest communities, including those identified as food deserts (several in SD), can benefit from the increased production of specialty crops. While the consumption of these products has tremendous benefit, the production of these products also offers economic development and employment opportunities in wide spread communities.

New producers who have interest in filling this local foods void are met with challenges to develop feasible businesses, identify customers, scale their business to the market, and engage a network of resource assistance. The specific issue this project was developed to address is continued education for our state's specialty crop producers. Education in its various formats were planned to include a growers' conference, visits to successful farms and other continuing educational formats such as webinars, etc.

There continue to be efforts to get fresh South Dakota produce into the school lunch programs and other institutional outlets. Specialty crops such as apples, potatoes, squash, frozen beans and frozen sweet corn are potential candidates. There are challenges, including lack of reasonable access to certified kitchens for food processing, to this model but conference participation should help bring SDSPA membership and potential institutional customers

together to develop a supply conduit. There are over 150 school districts, as well as health care and assisted living facilities and established restaurants that could employ some element of local food. The result would be that thousands of school children and others could benefit from local fresh fruits and vegetables.

The total food expense in South Dakota (according to the National Grocers Association at the time of grant submission) for fruits and vegetables was \$339 million. Capturing even an additional one percent of that money spent would bring an additional \$3.39 million to our state's producers residing in small communities and rural areas.

This project was designed to benefit the specialty crop growers and potential growers in the state. Based on past experiences, we expected at least 100 producers to benefit from the increased educational opportunities and thereby increase the competitiveness of specialty crops in South Dakota.

## **PROJECT APPROACH**

The focus of activities performed and tasks completed during the course of the grant period was increasing the knowledge base for specialty crop production & marketing and increasing the networking opportunities for SDSPA members and other interested persons. Due to the dynamic nature of the membership and to time constraints affecting the leadership (who serve on a voluntary basis), it was necessary to seek the services of a contracted membership coordinator to assure the continuity of work to accomplish the work plan and the organization's goals.

- The first task was to find and hire a highly qualified individual as the membership coordinator. The SDSPA found the search for the coordinator to be significantly more difficult and a longer process than anticipated. A request for proposals for the position was developed by leadership immediately after the grant award and the criteria for the position, resource management, and workshop development were determined. This work was initiated in 2012 but was not completed until 2013 due to time constraints for leadership, a change in all SDSPA leadership positions in March 2013, and fine-tuning revisions made to the position criteria. Even though all parties involved used available electronic communication methods, there were gaps in document access and email viewing/reaction timelines due to the leadership's seasonally-heavy agricultural & other job workloads and personal schedules.
- The membership coordinator position was advertised across South Dakota using public media, internal partnership communications, and word-of-mouth as this is a small population state and networking is an effective communication tool. No qualified applications were received. South Dakota enjoys a generally lower unemployment rate than most of the country so the pool of qualified available workers is smaller. The position description was reviewed and another round of position announcements was made using the initial methods along with concentration on potential applicant pools and significant personal contacts to increase the number of potential applicants. After review of applications, members of the Executive Committee interviewed and hired the most qualified applicant. Negotiations for the contract extended from November 2013 to February 2014 and that service contract was fully executed on February 10, 2014. The services of the membership coordinator were satisfactory and utilized until December 12, 2014, at which time the contract was terminated by mutual agreement at the request of the contractor.
- Meanwhile, in 2014 the SDSPA had been contacted by another qualified individual regarding the membership coordinator position. After termination of services by the first

contractor, the Executive Committee acted quickly to contact that individual to determine their interest in the position. The individual subsequently applied for the position, was interviewed, was vetted through the SD Department of Agriculture, and hired. The service contract was fully executed on December 22, 2014, all completed within 10 days of the vacancy.

- The new membership coordinator provides high quality, consistent, timely and professional service to the SDSPA and its members. This position is critical for the day-to-day business operations and communications among the leadership, but more importantly with members, partners and the public to ensure that the knowledge base increases about specialty crops production and marketing.
- As a result of these services, the membership, partners and influential agriculture leaders receive professionally produced, informative quarterly newsletters (examples are attached), members receive the requested bi-monthly email 'Updates' including Want Ads (example attached), and the SDSPA has gained new members such as the Black Hills Farmers Market and its coordinator due to the outreach of the membership coordinator. Plans were made during the grant period for the membership coordinator to visit members' operations this summer and to initiate a blog to share specialty crop information.
- The membership coordinator also assists the leadership with daily business operations such as coordinating regularly scheduled membership meetings, leadership meetings, conferences and workshop events.
- The majority of the grant award (\$32,000 of \$35,000) was designated for contractual services and contractor travel. Due to the significant delay in hiring a qualified contractor, a portion of the grant award was unfortunately not expended by the grantee. However, the SDSPA leadership and contractors have worked together diligently and effectively during the last half of the grant period to complete the specified tasks and to successfully serve the members. Had we been able to procure an extension to the grant award, the entire grant amount would have been expended to fulfill the goals of the grant award. We have a highly qualified and effective contractor in place that is fully functioning to serve the membership.

#### **ACCOMPLISHMENTS WITHIN THE ORGANIZATION DURING THE GRANT PERIOD INCLUDE:**

- New and improved communications as a whole, with visioning and focus on membership needs by leadership, more and expanded educational opportunities, and expanded partnerships in the region.
- The membership coordinator utilizes the work time to consider and bring improvements in services to the membership, such as:
  - Conduct interviews with printing service providers and set up a lower-cost business arrangement to streamline office supply services and billing.
  - Assist leadership with coordination of annual SD Local Foods Conference for members and serve as registration manager.
  - Coordinate arrangements and handle all onsite work for the membership's SDSPA Annual Meeting.
  - Produce and/or procure resource materials for the membership for scheduled training sessions.
  - Make personal contacts with all members to determine their needs and translate those needs into educational topics and business improvements, such as farm visits.
  - Contact potential members to share opportunities available through SDSPA membership.
  - Initiate weekly, or more frequent as needed, transmittal of current & pertinent state legislative information with the members while the State Legislature is in session.

- Provide member-driven ideas for training topics to leadership and organize resulting field tours to producers' operations and make visits to Farmers Markets to interview vendors.
- Implement a member-requested bi-monthly email 'Updates' to members to provide more timely and consistent communication. 'Updates' are transmitted on the 1<sup>st</sup> and 15<sup>th</sup> of the month (recent copy attached).
- Significant improvements to the content, presentation and distribution of the quarterly SDSPA newsletter (recent copy attached). Frequency of distribution increased from 'variable' to 'quarterly'.
- Coordinate regularly scheduled meetings and conference events such as the Annual Meeting and monthly conference calls with the Executive Committee.
- Coordinate members to participate in the "Product Showcase" networking and product promotion event during the Annual Meeting. Based on feedback from members in 2015, this showcase will be added to other educational events to increase networking and the knowledge base of members and the public.
- Assist with organizing the annual SD Local Foods Conference, coordinate speakers and handle registration duties.
- Communicate effectively with and assist SDSPA partners for educational efforts, such as promoting the two annual summer tours to various specialty crop operations and assisting SDSU Extension Service for promotion and registration tasks for the recent Wine Fruits workshop. Educational events presented by SDSPA partners that are of interest to SDSPA members are regularly advertised through the newsletter, bi-weekly 'Updates', social media sites and word-of-mouth.
- Promote SDSPA and specialty crop products at public venues such as the annual AgFest event in Pierre, annual Ag Day at the Washington Pavilion in Sioux Falls, and specialty producer group meetings such as Beekeepers, and the Farmers Markets. The previous membership coordinator suggested that SDSPA use AgFest to promote specialty crops and the new coordinator organized SDSPA's initial participation in the event in 2015. She initiated contact with all other vendors at the event for future follow-up.
- Make contact with Executive Committee and Board of Director members and gain their input for business meetings, organization operation and visioning session and goals.
- Assist leadership in seeking fund sources and developing grant applications. 2015 grant applications are complete and submitted; leadership is waiting on notification of grant awards. Plans are in place to improve the grant development and submission process for the future using suggestions from membership coordinator.
- Develop strategies to increase the number of specialty producers who participate in SDSPA and educational activities. Through the coordinator's direct efforts, SDSPA gained at least 5 brand new members this year and a new Board of Director member partially as a result of her communications.
- The first contractor had organized a one-day 'visioning' session in March 2014 for the Executive Committee which was moderated by SDSU Extension Service staff. The "Purpose and Goals" of the SDSPA organization served as the discussion framework. Current situations were noted for each Goal and additional actions (Research, Relationships, Action Plan, Resources and Interim Steps needed) were identified. These Goals were prioritized with the top 3 goals serving as the focus of work for the next year, or longer. It was noted that some lower priority activities will continue for continuity of program delivery and public exposure. An Action Register was implemented.



- **Priority Goal 1) Develop educational programs to support sustainable and organic production of specialty crops and specialty value-added products.**
  - Actions taken include: Training sessions specifically targeted to specialty crop producers and interested persons are included in each SDSPA Annual Meeting and Fall Meeting session as well as in other formal conferences. SDSPA meetings are scheduled in coordination with other partnership educational efforts such as the annual SD Local Foods Conference, SDSU Extension or other partner training sessions, and field tours & partner workshops.
  - Based on input from members, training sessions during the grant period included business planning, future of organic and local food, optimizing produce quality, community food systems, pest management in vegetable and fruit crops, business processes for marketing, post harvest produce handling, small scale food processing, growing Aronia & other specialty fruit crops, a field tour for specialty fruits and hops growing, toured a school kitchen that utilizes local foods, and farmers markets rules & culture. Input is gathered from training sessions, phone call conversations with members, and written feedback. Outreach included a hands-on seed growing exercise for children at Sioux Falls' Washington Pavilion annual Ag Day.
  - Serve as sponsor for partnership training sessions that benefit membership, such as recent "Wine Fruits" workshop hosted by SDSU Extension Service.
  - Provide letters of endorsement to entities with supporting but not duplicative programs, such as for the Northern Grapes Project and to SDSU Extension Service for grant requests related to food hub funding.
- **Priority Goal 2) Serve as a venue for networking and information gathering.**
  - Actions taken include: Bring the membership together in person twice a year for networking and education (Annual Meeting and Fall Meeting); rotate general membership meetings around the state to ensure all members have better access to organization activities; keep membership database current; provide incentives for new & renewing memberships such as choice of resource book and free website page to promote business; improve newsletter and publish regularly (now 4 times per year, professional document in contrast to infrequent publication in the past); newsletters are now shared with major agricultural leaders in the state; we initiated new bi-monthly membership 'Update' that is emailed to inform members of timely topics and provide free Want Ads to members; members receive access to a free webpage on the SDSPA website to promote their business and products; coordinate SDSPA training sessions each year with annual SD Local Foods conference; partner and serve as sponsor and active partner for new food hub development in southeastern part of state in 2014 & 2015.
  - Utilize website to promote members and their products - this is done on producers' individual web pages on SDSPA site-upgraded website service to provide more pages to members (increased by 100% the number of pages available for members); initiated Facebook presence and monitor weekly page updates. Currently, we are seeing 100% to 500% increases in 'Likes' and incremental increases in 'Total Reach' and 'People Engaged'.
  - Utilize SD FARMERS MARKET and SDGRAPES listservs to share information with pertinent audiences; serve as active member of SD Local Food Collaborative to plan and conduct annual SD Local Foods Conference.
  - Started work to bring specialty crop groups under SDSPA organizational 'umbrella' to improve service to all producers and streamline operations; at present, we are

working to streamline membership and dues structures for SD Buy Fresh Buy Local chapter and Farmers Markets under SDSPA.

- With SD Department of Agriculture input, designed a producer and Farmers Market survey to assess current and planned specialty crop production data, including income goals and accomplishments. Data will be shared with agriculture and tourism leaders in SD. We anticipate visiting up to 50% of all SD farmers markets this summer to gather pertinent specialty crop production and marketing information for potential use by SDSPA, SD Department of Agriculture, SD Department of Tourism, and other agriculture partners.
  - Initiated a “Producer Showcase” in the evening after the Annual Meeting to allow members to bring and share products to increase networking, knowledge base of participants, and provide ideas for production and value-added products.
  - Took initiative to host a booth at SD annual AgFest gala in Pierre in 2015 to promote specialty crops; SDSPA members shared samples of Aronia berry “smoothies” drinks that were a hit.
  - Helped sponsor a grower seminar at the 2014 SD State Fair in conjunction with the SD Value Added special focus day.
- **Priority Goal 3) Submit grants that support organizational goals.**
    - Actions taken include: Develop and submit 2015 SCBG applications for SDSPA and as sponsor for the SD Local Foods Collaborative and the SD Buy Fresh Buy Local chapter.
    - Schedule resource providers to speak to membership at 2015 Annual Meeting about grant & funding resources available, including SARE, SD SCBG, USDA Rural Development and others.
    - Seek funding to assist with social media presence and online promotion of members’ businesses & products.

## **SIGNIFICANT RESULTS**

- Significant results include new memberships as a result of information presented at training sessions, membership incentives, and interaction with existing members. As an example, 3 new members joined for these reasons during the 2014 Local Foods Conference and 5 new members joined as a direct result of contacts by the membership coordinator. Membership numbers include new, founding member, intermittently renewing and professional support members as well as members from new specialty product categories such as honey producer. We are encouraged that personal outreach efforts at educational events and meetings such as the Food Hub organizing meetings in southeast SD, the SDSPA Annual Meeting and the SD Local Foods Conference this past year directly resulted in 11 new members. 3 of those members were renewed memberships (including 2 founding members of SDSPA) after a number of years of inactivity; these individuals were impressed with the scope of work being done in the organization, the revitalized leadership and expanding membership, and educational efforts being made for the members. The other new members indicated that they had not had exposure to the work being done by SDSPA but were impressed by current efforts and wanted to join the organization. After a member joins or renews their membership, the membership coordinator contacts them personally for follow-up and to gain their input for the organization and its efforts.
- Leadership has a prioritized outline to work from in setting up goals and targets for the year and to use in evaluation of activities. The organization, its purpose and its members have increased visibility in the state as a result of new activities that include participation in the SD Value Added Day at the SD State Fair, specialty crop promotion at the annual AgFest in Pierre, the new “Producer Showcase” at the Annual Meeting which can be expanded to

other meetings or training sessions, vastly improved and more frequent newsletters that share pertinent information and highlight members and their businesses, improved communications with members that include the newsletters, and the bi-monthly 'Update'.

- Educational focus of grant activities centers on the annual growers' conference (SD Local Foods Conference) which has expanded to educational workshop/meeting coordination for the SDSPA Annual Membership Meeting. Field tours to successful farmers' operations are conducted annually. Most recent tours include a member's vineyard and winery operation in 2012, local vegetable grower's operation and a winery in 2013, and small fruits & hops growers' tour and specialty crop tillage tour in 2014. In conjunction with the 2015 Annual Meeting, members toured the school kitchen at St. Joseph's Indian School (Chamberlain, SD) to see how they are extensively using local foods in the school meal program as well as successfully introducing students to new, nontraditional healthy fruits and vegetables in their daily menus.
- Grant funding enabled the organization to plan ahead for some activities in 2015, including a tour of two different high tunnel operations in Yankton County in partnership with the Northern Plains Sustainable Agriculture Society's annual 'Summer Field Days' tours. In addition, based on requests from the membership, we plan to include information in the "Production" track during this year's SD Local Foods Conference that will help potential and current producers to evaluate some new crop selections and successful production methods. We continue to expand the scope (ex. statewide participation available through technology), variety (ex. expanded topics included in training sessions from growing to marketing to networking) and communication methods (ex. DDN, conference calls) with our continuing education program. We partner with SDSU Extension Service to promote their training sessions that benefit SDSPA members and other specialty crop producers. We frequently serve as local on-site resources to share handouts or other info as requested by Extension Service, such as handouts for a recent DDN session (numerous sites across the state) on food safety led by Extension Service specialists.
- We have developed a draft survey to use at Farmers Markets that will gather production and income information from specialty crop producers that will be shared with SD Department of Agriculture, SD Department of Tourism, and other agriculture partners to help expand the services to producers, increase the knowledge base of consumers and specialty crop customers, and provide a focus for agri-tourism in the specialty crops industry.
- We had set a goal of reaching at least 100 growers with specialty crop information and support. Based on participation at the annual SD Local Foods Conferences in 2012-2014 and multiple workshops, we have reached over 200+ growers. In addition, we provide information to current SDSPA members (35-45 per year), and potential members through the food hub educational efforts (over 50 people), farmers markets outreach (35+ farmers markets), SDGRAPES listserv (30+ contacts), and briefly sharing SDSPA membership information at select SDSU Extension Service training sessions.
- Legislative Updates containing information to specialty crop producers are now provided by email to members by the membership coordinator on a weekly or more frequent basis when the Legislature is in session.
- The membership coordinator worked with members to obtain updated information and photographs to showcase their products and businesses on the SDSPA outreach booth. It took considerable time and effort to visit individually with producers, develop a relationship with them, and obtain information to include in the booth display and other outreach and informational materials. The updated booth materials are designed to allow for flexibility in the display content, depending on the venue and target audience for the outreach display.
- SDSPA provides direct assistance to members for potential marketing opportunities through a developing food hub in the southeastern part of the state. SDSPA served as an active

sponsor for the food hub grant submissions, provided direct assistance in organizing 4 of the local producer meetings and organizing assistance for the other 4 meetings, participated in subsequent strategic planning sessions with producers, assisted in development of the tour to mentors' farms in Wisconsin and Illinois, and participating in monthly DDN (remote video & audio learning access) food hub meetings.

#### **PROJECT PARTNERS AND SIGNIFICANT CONTRIBUTIONS:**

- In-kind Match calculated at \$25.00 per hour (Board of Directors & Executive Committee); at \$40.00 per hour (Partners); and at \$0.35/mile for state partners and \$0.55/mile for BOD and others (Travel); and at \$25.00 per person/entity for SDSPA membership.
- South Dakota State University (SDSU) Extension Service. Staff member serves as a long-time valued Advisor to SDSPA. Extension Service staff work closely with SDSPA to provide needed educational events and helps promote and support SDSPA activities.
- SD Buy Fresh Buy Local (BFBL) chapter. State coordinator works closely with SDSPA to promote and support new and existing farmers markets. We are working to streamline the dues and membership structures of SDSPA and BFBL bring pertinent partner organizations under the SDSPA organization umbrella as chapters. Also was elected to serve as a SDSPA Executive Committee member.
- SARE. Provides significant grant information and hands-on support for funding applications to members and interested persons. SARE Coordinator serves as member of the SD Local Foods Collaborative for planning and conducting the annual SD Local Foods Conference.
- South Dakota Department of Agriculture. Provides excellent guidance and support for Specialty Crop Block Grant program; provides to SDSPA in our efforts to serve specialty crop producers; and is a valued partner in developing the local food hub and SDSPA outreach and data gathering efforts.
- Northern Plains Sustainable Agriculture Society. Active partner in developing mutually-beneficial educational efforts for SD specialty crop producers. Support provided by joint planning efforts, grant match support for NPSAS subject matter experts as they provide training to SDSPA members. SDSPA and NPSAS both promote each organizations' pertinent events.
- SD Local Foods Collaboration. Provides venue and support for educational activities that directly benefit specialty crop producers and interested persons though the annual SD Local Foods Conference. Networking opportunities at this venue, and through work on the steering committee, benefit SDSPA leadership and members.
- USDA Rural Development. Provides direct support for educational activities that benefit specialty crop producers and interested persons though the annual SD Local Foods Conference. Networking opportunities at this venue, and through work on the steering committee, benefit SDSPA leadership and members.
- South Dakota Small Business Development Center. Provides direct support for educational activities that benefit specialty crop producers and interested persons though the annual SD Local Foods Conference. Networking opportunities at this venue, and through work on the steering committee, benefit SDSPA leadership and members.
- SD Value Added Development Center. Provides promotion of specialty crop value-added products and indirectly works closely with BFBL program.
- Dakota Rural Action. Provides direct support for educational activities that benefit specialty crop producers and interested persons though the annual SD Local Foods Conference. Networking opportunities at this venue, and through work on the

steering committee, benefit SDSPA leadership and members. Also cooperative efforts for development of local food hub.

- SDSPA Board of Directors. Provide leadership and support for the SDSPA Mission and Goals.
- SDSPA Executive Committee. Provide business direction to membership coordinator and conduct normal SDSPA business operations.

Total of hours contributed and travel miles to accomplish SDSPA business, participate in meetings, conferences and training sessions sponsored by and led by SDSPA, and for direct support to membership is estimated at **\$23,149** contribution by Board of Directors and Executive Committee members during the grant period. Contributions from all others are estimated at **\$22,333**. However these figures do not include time spent in development of educational activities, the daily business of SDSPA, and special effort development such as investigating web services and maintaining a social media presence.

## **GOALS AND OUTCOMES ACHIEVED**

- The major performance goal for this project was to increase knowledge about production practices for 75% of growers. Prior to the hiring of the membership coordinator, many of the evaluations were given verbally to presenters and documented in the form of suggestions for future educational topics. The membership coordinator assisted presenters by developing, distributing and summarizing written evaluations. Written evaluations were supplied to participants of formal SDSPA workshops, workshops where SDSPA served as an active sponsor such as the SD Local Foods Conference, and for educational presentations made in conjunction with Annual and Fall Membership meetings.
- Workshop presenters and long-time partners utilized the evaluation feedback to develop near-future workshops such as how to use other fruits for making wine, marketing specialty crop products, using social media in your specialty crops business, and information about food hub marketing.
- Despite the use of anonymous feedback evaluations, much encouragement to participants to fill out evaluations, and explanations of the need for participants to provide evaluation information for us to share with funding sources, we regularly receive feedback from less than half of the participants, sometimes as low as 20%, although in smaller groups where it's easier to encourage individuals to respond, we saw up to 55% feedback. Many positive and constructive comments are provided verbally to presenters & leadership and are documented for future reference but it is difficult to get written feedback, even when it's positive.
- Based on feedback sheets received during this year's Annual Meeting sessions, as an example, the extrapolated figures show 55-89% of respondents increased their knowledge, with an average of 73% showing an increase in knowledge for this one series of training sessions. By the same token, where there was no net gain shown in knowledge base for the other respondents in this session, the respondents did suggest information that they would like to learn in future sessions. One of the topics that received requests for additional information was grant writing. In response, we plan to include a more in-depth hands-on grant writing workshop into the 2015 SD Local Foods Conference training track. Therefore over the course of a year, or the total (long-term) grant period, we have provided training and increased knowledge bases, received feedback from participants, and reacted to add additional educational opportunities to increase producers' knowledge. While we may not see the targeted percentage

increase in one sitting, we have been proactive to provide follow-up training to address needs. There is no guarantee that the respondents did increase their knowledge base as a result of participating in training sessions, and who requested additional training and thereby could increase their knowledge level, would actually participate in the next session and thus incrementally increase their knowledge base to the targeted percentage or higher.

- Since we find a wide range of experience and inherent knowledge bases in the participants of each educational session, it is very difficult to design and deliver enough in-depth information in one session to meet the needs of each participant.

## **BENEFICIARIES**

- Consumers of locally grown and marketed specialty crop products in South Dakota and nearby areas benefit from having South Dakota grown, low transportation mileage and fresh food to procure for their meals. Revenue from the sales of fresh foods produced and sold locally is available to spend in the local area. Effective marketing of local foods increases the knowledge of their availability and freshness with consumers and may increase interest in additional consumption of these products or in trying new products. Customer feedback at farmers markets indicates that consumers like knowing where their food comes from and that it is healthy for them.
- Producers of specialty crops benefit from support to their industry by the SDSPA and partners organizations by increasing their knowledge base thus enabling them to expand their production and marketing efforts, and increasing the awareness of the public about fresh, locally produced agriculture products.
- Agriculture industry in South Dakota benefits by having locally produced agriculture products in a growing industry add to the agriculture revenue in the state and improving the quality of foods consumed by the population. Our farmers market survey effort in 2015 will be geared toward identifying and quantifying the scope of this industry in the state and then sharing that information to promote products and increase agri-tourism opportunities in the state.
- Groups that have benefited from the completion of this project's educational efforts include not only specialty producers in general but members of specific specialty product groups as well. SDSPA membership is very diverse mix of individuals by demographics (age, sex, race, national origin), specialty products (wild and cultivated tree & shrub fruits, vegetables, wine grapes and wineries, honey, garlic, wild and cultivated herbs, hops, etc), occupation (farmers, small growers, chefs, bakers, vintners) and geography (extremely rural to large urban areas). South Dakota winegrowers, honey producers, hops growers, bakers and chefs, and fruit and vegetable growers have all had access to targeted educational activities. In addition, general interest topics such as social media marketing, product marketing strategies, food safety issues, and product handling training have been presented over the last 2 years for all members and the interested public.
- Information provided in at least one workshop has been targeted to Native American producers and interested persons for production of traditional native foods. SDSPA is an active sponsor of the BFBL program to develop farmers markets on reservations and additional activities are planned for 2015 and 2016 to engage beginning farmers and other producers in the target areas.
- SDSPA supports the SD BFBL chapter by promotion of existing and new farmers markets in general, and we include all BFBL participants and Farmers Market

participants in promotion of educational activities for specialty crop production and marketing.

- Participants in local Food Hub organizational meetings and strategic planning sessions in southeast South Dakota have benefitted from SDSPA's active support to the Food Hub development, in-kind match, and support for grant applications and project activities.
- Partners including SDSU Extension Service and the Northern Plains Sustainable Agriculture Society have benefitted from cooperative efforts with SDSPA by reaching a larger and focused target audience within the SDSPA members, farmers markets members, and SD Buy Fresh Buy Local chapter members. SDSPA actively shares resource information between and among the partnership groups in order to more actively engage potential and current members of the target audiences.

## **LESSONS LEARNED**

- The SDSPA leadership considers it a critical business need to engage the services of a paid membership coordinator to assist with membership needs, and to support the ongoing business of the leadership group and the organization. All of this work and accomplishments for South Dakota's specialty producers would not have been possible through the strictly volunteer labor of the Executive Committee, Board of Directors and ad hoc committees. A contractor or group whose job it is to ensure that the work of its members and the general organization gets done is essential to the professional appearance and operation of a non-profit organization. The contractor is regularly available to membership, partners, and others interested in the work of the SDSPA.
- We are also seeing that the time taken by the membership coordinator to make personal contact with each member results in effective working relationships with members and better communication. As a result, we are gaining additional input for workshop topics and constructive feedback that has not been readily shared in some training session evaluations. We are also gaining new members as a result of direct outreach to potential members.
- It is not feasible at this point to expect the dues structure of the organization to support the needed membership and industry support and there is no other business income generating service provided by the organization, which is recognized as a state non-profit corporation. Actions are being taken to apply for federal non-profit organization status in 2015 which will allow the organization to increase the scope of funding sources and services that it can provide to members.
- Developing and maintaining a social media presence are both critical and time consuming efforts if they are to be effective. Non-profit volunteer organizations like SDSPA struggle with performing consistent and timely tasks such as these and require additional financial resources to best serve the members. Additional contractor services are needed to develop and maintain the SDSPA web pages, Facebook page, and other social media tools to keep information current and of interest.
- The contracted membership coordinator can efficiently handle the day-to-day business of the organization for the membership, but this work requires continuing effective communication among the leadership members as well as between the leadership team and the membership coordinator. Regularly scheduled monthly conference calls, using new business tools that include an Action Register, Time/Travel Log sheet to document in-kind match, an agenda template, and free conference call service are improving our planning and performance. In addition, the follow-up provided by the coordinator helps the leadership team to keep on track and complete the identified tasks on time. This work results in better service to the membership. In the absence of a coordinator's role,

it is too easy to reduce effective communication and let tasks slide during the times of heavy seasonal work and personal schedules of the leadership team.

- One of the benefits to having this established communication and performance scheduling that is facilitated by the membership coordinator, is that we can plan ahead for participation in these activities. If one knows they will be unavailable for the next scheduled call, tasks can be accomplished ahead of time or accounted for in future planning. It also allows one to plan for an alternative site to participate in the scheduled call if they are away from home. Leadership team members have participated in calls from vehicles parked off the road during a trip, from motel rooms, from college facilities in another state, and during a break in another meeting at another location. It seems that improved communications also improves team members' commitment for participation in the calls and for taking responsibility to complete assigned tasks. Improved communications help foster a better team focus.
- A contracted membership coordinator who is effective in planning, communication, and implementation of goals enables the organization to complete tasks and fulfill goals in a timely manner. As these established goals are achieved, the organization may increase its scope of work and plan for more accomplishments to be achieved in potentially a shorter amount of time and to more effectively serve the members.
- The SDSPA greatly appreciates their partnership with the SD Department of Agriculture in procurement of the grant funds that enable us to work effectively in support of specialty crops producers and potential producers in South Dakota. We find this work to be necessary and important to increase the producers' knowledge of current topics; to promote the production, value-added efforts, and marketing of specialty crops; and to improve the access to these products by consumers and institutional customers. It is also vital work to facilitate the networking activities of specialty crops producers to increase the extent, benefits, and economic values of this growing segment of South Dakota's agriculture industry.

## **CONTACT PERSON**

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- 605.354.7115
- [gavinsptvineyard@gmail.com](mailto:gavinsptvineyard@gmail.com)

## **ADDITIONAL INFORMATION**

- Website: [www.sdspecialtyproducers.org](http://www.sdspecialtyproducers.org)
- Facebook: <https://m.facebook.com/sdspa>
- SDSPA Newsletter, attached
- SDSPA Bi-Monthly Update, attached
- SDSPA Legislative Update, attached

## **Project 4**

**Title** – Growing and Marketing Hops in South Dakota

**Subgrantee** – Dakota Hops

**Contact Person** – Steve Polley

## **Final Report**



## **Project Summary**

In the Letter of Agreement between the State of South Dakota (State) and Dakota Hops, LLC (Grantee) the total grant funds requested was reduced from \$26,996 to \$17,500 and the specific issues, problems, interests, or needs to be addressed included the construction of the harvester/sorter-cleaner only.

This report addresses the construction and performance of the custom built separator/sorter. Hop harvesting equipment has at least two components: a picker to strip the hop cones from the leaves and stems. Until now we only had a rudimentary picker and the sorting process was done by hand which was a substantial handicap to expanding our hop production beyond one acre. This grant provides the funds to custom manufacture a hop sorter. Hop harvesting equipment for the small hop farmer (a few acres) is not available without it being custom manufactured. Hop harvesting equipment is available to the large hop farmer (hundreds of acres) but sells for well over \$1,000,000.

The sorter was custom built by George Merten, Oregon for \$17,500 and we took delivery of the sorter 9/14/14. It is about 1/6 scale of the large commercial models and measures about 18' in length, 5' in width and 9' high with an 18 foot input conveyor.

According to Mr. Merten the production capacity is about 4 vines per minute. These are 17'-18' commercial hop vines- our vines are 10' in length. When trimmed at harvest one commercial vine equals two of our vines. At 8 vines per minute we should be able to sort our 500 vines in about one hour. As soon as we obtain a picker with equal production capacity it will allow us to greatly expand crop production to meet the demand of the local craft brewers.

## **Goals and Outcomes Achieved**

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## **Beneficiaries**

The project has the potential to reach most home brewers and microbreweries in the country. Currently we have about 10 home brewer groups, including one certified beer judge, testing frozen hops in their craft brewing. We currently have two nanobreweries that plan to brew with our frozen hops (South Dakota & Nevada). The South Dakota brewery wants to brew exclusively with frozen hops which will demand much of our production.

## **Lessons Learned**

Despite having an early frost that destroyed about 90% of our hop crop we were able to harvest most of the Cascade hops picker is much slower than the hop sorter we bunched the hops for processing and dumped them on the input conveyor but could not over overload the sorter. We

thought the sorter did a remarkable job considering both the speed and the quality of operation. Mr. Merten predicted operation of the sorter to be minimum of 4 commercial vines per minute with less than 1% of flow-thru of leaves (commercial sorters operate at the about 1 ½%)- we believe Mr. Merten to be correct.

As a side note, the electrician/farmer who wired the sorter to the 220v outlet made the comment that “a real professional built this sorter”. A special thanks to George for an exceptional job!

#### **Contact Person**

Steve Polley  
800-583-0365  
dakotahops@aol.com

### **Project 5**

**Title –** South Dakota Local Food Online Marketplace Central Ordering System

**Subgrantee –** Value Added Ag Development Center

### **Final Report**

#### **Project Summary**

Fresh produce will continue to experience an increase in demand, but seasonality forces many willing local foods buyers to depend on out of state commercial growers who offer consistent quantity/quality. The same factors also influence retail businesses. To satisfactorily supply institutional (schools, universities, hospitals, nursing homes) and retail (grocery, restaurants, etc) buyers requires a dependable specialty foods distribution system. Processed (frozen/value added) products offer growers the benefit of a year-round income, but also call for strategies to address logistical challenges. Larger orders and value added products require cooperation among growers to aggregate, process and distribute local food in a guided and controlled format to provide maximum value to all parties. The local food system also needs to ensure execution of food safety third party verification procedures required by producers and end users. The Value Added Agriculture Development Center's SCBG project was to consider a central distribution system to link all sectors and offer long term benefits to specialty crop growers / buyers with potential to efficiently grow with demand.

#### **How is this project important and timely?**

The project is researching and reporting the current status of local food distribution in South Dakota. Many growers throughout the state are entering commercial size. This type of grower understands production and is a dependable supplier. VAADC, in cooperation with South Dakota State University and South Dakota Specialty Producers Association have been working toward establishing a food hub in the southeast portion of the state. Over the past year the project has achieved traction due to grower interaction allowed by this SCBG, business planning/marketing tracts at meetings/conferences/workshops, along with coordination with other local food partner allies. With a food hub in development the compiled data and information will be available to our partners to augment establishment efforts.

#### **Project Approach**

1. Online Marketplace outreach-education and grower participation criteria will be developed and disseminated via a) VAADC/BFBL local food systems work plan meetings; b) individual consultation at farmers markets; c) business planning/marketing tracts at meetings/ conferences/workshops; d) coordination with other local food partner

allies such as SDSU Extension, SDSU Horizon, RC&D, South Dakota Specialty Producers Association, Dakota Rural Action, etc.

- *Multiple visits to farmers markets gathered grower production goals and product sales/pricing data*
  - *Attend grower / marketing meetings and field tours to promote grower aggregation and gather information*
  - *South Dakota Specialty Producers Association collaboration to disseminate information to growers*
  - *Partner with South Dakota State University to study local foods initiative*
  - *Assemble statewide grower inventory reports*
  - *Focus aggregation activity in Vermillion and Wagner (SD State University Horizon Community) based on grower interest*
2. Prospect growers will be selected from list generated via a) VAADC/BFBL local food systems work plan meetings; b) individual consultation at farmers markets; c) business planning/marketing tracts at meetings/conferences/workshops; d) coordination with other local food partner allies such as SDSU Extension, SDSU Horizon, RC&D, South Dakota Specialty Producers Association, Dakota Rural Action, etc.
- *Twenty five growers selected, nine growers completed inventory*
  - *Quantities sufficient for processing and wholesale distribution*
  - *Findings reflect pricing at farmer market averages 50% higher than wholesale*
  - *Partner South Dakota State University given lead for steering committee to start food hubs in South Dakota*
3. VAADC/partners will develop grower qualification/'certification criteria' – such as developing a business plan using Business Profile Creator, GAP training, food processing, etc. VAADC/partners will then assist individual recruited growers with business planning module and other qualification criteria processes necessary for Online Marketplace registration. Certification of growers will be considered to lend credibility to their operation-products.

Create cooperative approach for processing/marketing/distribution aggregation to educate growers on benefits of combining efforts. Financial assessments developed to reflect income/expense of such entity:

- Wholesale fruit and vegetable prices
- Processed Product Cost / Price
- Producer inventory and price estimate
- Processing facility costs
- Processing Operations Statement
- Processing facility cash flow statement

## **South Dakota Wholesale Fruit & Vegetable Prices**

USDA - Agriculture Marketing Service, Fruits and Vegetable November 2014

|                |                  |              |                 |                     |         |                 |               |         |
|----------------|------------------|--------------|-----------------|---------------------|---------|-----------------|---------------|---------|
| <b>Product</b> | <b>Quantity</b>  | <b>Price</b> | Green beans     | 30 lbs (bul) carton | \$39.50 | Lettuce Leaf    | 2.5 lb carton | \$19.00 |
| Apples         | Bushel (40lbs)   | \$27.00      | Broccoli        | 20 lb carton        | \$20.00 | Ornamental Corn | 40 lb carton  | \$20.00 |
| Raspberry      | 12 @ ½ pint flat | \$23.75      | Beets           | 25 lb carton        | \$12.00 | Bell Peppers    | 15 lb carton  | \$24.25 |
| Pie Cherry     | 16 lb carton     | \$24.50      | Brussel Sprouts | 25 lb carton        | \$31.50 | Hot Peppers     | 25 lb carton  | \$27.00 |
| Apple Cider    | 4 @ 1gal         | \$16.00      | Cabbage         | 50 lb               | \$11.50 | Sweet           | 25 lb         | \$22.50 |

|                     |              |          |              |               |         |               |              |          |
|---------------------|--------------|----------|--------------|---------------|---------|---------------|--------------|----------|
|                     |              |          |              | carton        |         | Peppers       | carton       |          |
| Grapes              | 18 lb carton | \$26.00  | Carrots      | 50 lb sack    | \$20.00 | Pumpkins      | 48" bin      | \$175.00 |
| Plums               | 28lb carton  | \$26.00  | Cauliflower  | 20 lb carton  | \$22.00 | Radishes      | 20 lb carton | \$30.50  |
| Strawberry          | 8 qt flat    | \$12.00  | Sweet corn   | 4 doz carton  | \$16.00 | Rhubarb       | 40 lb carton | \$24.00  |
| Watermelon          | 48" bin      | \$210.00 | Cucumber     | 25 lb carton  | \$27.00 | Summer Squash | 40 lb carton | \$12.00  |
| Seedless Watermelon | 48" bin      | \$225.00 | Egg Plant    | 35 lb carton  | \$38.00 | Winter squash | 40 lb carton | \$12.50  |
| Cantaloupe          | 12 ct carton | \$19.75  | Garlic       | 22 lb carton  | \$55.00 | Tomato        | 20 lb carton | \$20.00  |
| Potato              | 50 lb carton | \$16.25  | Greens       | 2.5 lb carton | \$26.25 |               |              |          |
| Onion               | 50 lb sack   | \$20.50  | Kohlrabi     | 20 lb carton  | \$23.00 |               |              |          |
| Asparagus           | 11 lb carton | \$31.00  | Lettuce Bibb | 24 ct carton  | \$19.50 |               |              |          |

Red Earth Coop began a startup committee in 2012 to open a cooperative grocery store in Vermillion, SD. The following tables summarize VAADC's analysis of the grower coop and are based on the proposal to operate a fresh produce/value added processing facility in the same building as the grocery store. The assumption was a 2,000 square foot processing area with appropriate processing equipment. Each category of the facility cost is itemized, providing a template for future projects.

| Processing Facility Costs | Sq Ft       | \$ / Sq Ft   | Cost             | Cost             |
|---------------------------|-------------|--------------|------------------|------------------|
| Building                  | 2000        | 93.25        | \$186,500        | \$186,500        |
| Walk-in Freezer           | 64          | 110.00       | \$7,040          | \$7,040          |
| Walk-in Cooler            | 64          | 60.00        | \$3,840          | \$3,840          |
| Processing Equipment      | <u>2000</u> | <u>54.15</u> | <u>\$108,300</u> | <u>\$108,300</u> |
| Total                     | 2000        | 317.40       | \$305,680        | \$305,680        |

The Statement of Operations is a detailed (line item) operations costs spreadsheet to analyze breakeven points and potential income. The processing business is a low margin investment with some risks which will impact operations and possibly income, therefore it can require additional equity as it may be difficult to finance. The cooperative model is an opportunity to build a processing facility because the grower investors become owners that sell product to the facility and get dividends. A processing facility needs to initially operate on a seasonal basis, then gain profitability as the product volume increases.

**Assumptions:**

4. Cost of Goods Sold – 60% of gross profit
5. Sales brokerage – 8% of gross profit
6. Distribution – \$1.00 /mile in Year1 is 7,500 miles for delivery
7. Facility – 13% of gross profit
8. Operating – average wage \$10.00/hr Year1 - total hours of operation in Year1 is 500 hours with 3 staff; Year3 is 2,000 hours with 5 staff

| <u>Processing Operations Statement</u> | <u>Year1</u> | <u>Year 2</u> | <u>Year 3</u> |
|--|--------------|---------------|---------------|
| Gross                                  | 175,000      | 300,000       | 500,000       |
| Cost of Goods                          | 105,000      | 180,000       | 300,000       |

|                 |              |              |               |
|-----------------|--------------|--------------|---------------|
| Gross Profit    | 70,000       | 120,000      | 200,000       |
| Sales Brokerage | <u>5,250</u> | <u>9,000</u> | <u>15,000</u> |
| Sub total       | 64,750       | 111,000      | 185,000       |
| Facility        | 8,750        | 15,000       | 25,000        |
| Operating       | 35,000       | 60,000       | 100,000       |
| Distribution    | 17,500       | 20,000       | 50,000        |
| Profit          | 5,500        | 6,000        | 10,000        |

The processing facility may consist of simple sorting, grading, washing and packaging produce for wholesale distribution. The facility needs to have correct packaging, sufficient GAP certified areas, truck loading area along with the items in the Processing Facilities Costs table. The following table provides a breakdown of costs associated with value added processed products such as spaghetti sauce and frozen green beans to grading and packaged produce. These costs of goods utilize USDA – AMS Fruit and Vegetable wholesale reporting.

### Processed Product Cost/Price 2014

#### Spaghetti Sauce, Quart

|             | Pounds / Qt | Total | Cost of Goods | Unit CoG | Qt CoG  | Retail Price | Gross Income |
|-------------|-------------|-------|---------------|----------|---------|--------------|--------------|
| Jar / Label | 1           | 14400 | \$ 7,200.00   | \$ 0.50  | \$ 0.50 | \$ 3.50      | \$ 50,400.00 |
| Tomato      | 2.75        | 39600 | \$ 19,800.00  | \$ 0.50  | \$ 1.38 |              | Net Income   |
| Pepper      | 0.45        | 6480  | \$ 3,240.00   | \$ 0.50  | \$ 0.23 |              | \$ 14,148.00 |
| Onion       | 0.55        | 7920  | \$ 5,940.00   | \$ 0.75  | \$ 0.41 |              |              |
| Herb        | 1           | 720   | \$ 72.00      | \$ 0.10  | \$ 0.10 |              |              |
| Facility    | 1           | 1     | \$ 2,880.00   | \$ 0.20  | \$ 0.20 |              |              |
| Labor       | 1           | 1     | \$ 2,880.00   | \$ 0.20  | \$ 0.20 |              |              |
| Total       |             |       | \$ 36,252.00  |          | \$ 3.01 |              |              |

#### Frozen Green Beans

|             | Pounds | Total  | Cost of Goods | CoG     | 30 bu carton | Price    |               |
|-------------|--------|--------|---------------|---------|--------------|----------|---------------|
| Package     | 1      | 3333   | \$ 6,583.33   | \$ 0.07 | \$ 1.98      | \$ 39.50 |               |
| Green Beans | 30     | 100000 | \$ 79,000.00  | \$ 0.79 | \$ 23.70     |          |               |
| Facility    | 1      |        | \$ 14,483.33  | \$ 0.14 | \$ 4.35      |          |               |
| Labor       | 1      |        | \$ 23,700.00  | \$ 0.24 | \$ 7.11      |          | Gross Income  |
| Total       |        |        | \$ 123,766.67 | \$ 1.24 | \$ 37.13     |          | \$ 131,666.67 |
|             |        |        |               |         |              |          | Net Income    |
|             |        |        |               |         |              |          | \$ 7,900.00   |

**Watermelon**

|            | Pounds | Total  | Cost of Goods | Unit CoG | 1000 lb bin CoG | Price     | Gross Income |
|------------|--------|--------|---------------|----------|-----------------|-----------|--------------|
| Package    | 1      | 100    | \$ 1,050.00   | \$ 0.01  | \$ 10.50        | \$ 210.00 | \$ 21,000.00 |
| Watermelon | 1000   | 100000 | \$ 12,600.00  | \$ 0.13  | \$ 126.00       |           | Net Income   |
| Facility   | 1      |        | \$ 2,310.00   | \$ 0.02  | \$ 23.10        |           | \$ 1,260.00  |
| Labor      | 1      |        | \$ 3,780.00   | \$ 0.04  | \$ 37.80        |           |              |

**Wholesale Produce Details****Apples**

|  | Pounds | Total | Cost of Goods | Unit CoG | Bushel CoG | Price | Gross Income |
|--|--------|-------|---------------|----------|------------|-------|--------------|
|--|--------|-------|---------------|----------|------------|-------|--------------|

**Cabbage**

|          | Pounds | Total  | Cost of Goods | Unit CoG | 50 lb carton CoG | Price    | Gross Income |
|----------|--------|--------|---------------|----------|------------------|----------|--------------|
| Package  | 1      | 2000   | \$ 1,150.00   | \$ 0.01  | \$ 0.58          | \$ 11.50 | \$ 23,000.00 |
| Cabbage  | 50     | 100000 | \$ 13,800.00  | \$ 0.14  | \$ 6.90          |          | Net Income   |
| Facility | 1      |        | \$ 2,530.00   | \$ 0.03  | \$ 1.27          |          | \$ 1,380.00  |
| Labor    | 1      |        | \$ 4,140.00   | \$ 0.04  | \$ 2.07          |          |              |
| Total    |        |        | \$ 21,620.00  | \$ 0.22  | \$ 10.81         |          |              |
| Package  | 1      | 2500   | \$ 3,375.00   | \$ 0.03  | \$ 1.35          | \$ 27.00 | \$ 67,500.00 |

**Potatoes**

|          | Pounds | Total  | Cost of Goods | Unit CoG | 50 lb bag CoG G | Price    | Gross Income |
|----------|--------|--------|---------------|----------|-----------------|----------|--------------|
| Package  | 1      | 2000   | \$ 1,625.00   | \$ 0.02  | \$ 0.81         | \$ 16.25 | \$ 32,500.00 |
| Potatoes | 50     | 100000 | \$ 19,500.00  | \$ 0.20  | \$ 9.75         |          | Net Income   |
| Facility | 1      |        | \$ 3,575.00   | \$ 0.04  | \$ 1.79         |          | \$ 1,950.00  |
| Labor    | 1      |        | \$ 5,850.00   | \$ 0.06  | \$ 2.93         |          |              |
| Total    |        |        | \$ 30,550.00  | \$ 0.31  | \$ 15.28        |          |              |
| Apples   | 40     | 100000 | \$ 40,500.00  | \$ 0.41  | \$ 16.20        |          | Net Income   |
| Facility | 1      |        | \$ 7,415.00   | \$ 0.07  | \$ 2.97         |          | \$ 4,050.00  |
| Labor    | 1      |        | \$ 12,150.00  | \$ 0.12  | \$ 4.86         |          |              |
| Total    |        |        | \$ 63,450.00  | \$ 0.63  | \$ 25.38        |          |              |

**Winter Squash**

|  | Pounds | Total | Cost of Goods | Unit CoG | 40 lb carton CoG | Price | Gross Income |
|--|--------|-------|---------------|----------|------------------|-------|--------------|
|--|--------|-------|---------------|----------|------------------|-------|--------------|

**Tomatoes**

|               | Pounds | Total  | Cost of Goods | Unit CoG | 20 lb carton CoG | Price    | Gross Income  |
|---------------|--------|--------|---------------|----------|------------------|----------|---------------|
| Package       | 1      | 5000   | \$ 5,000.00   | \$ 0.05  | \$ 1.00          | \$ 20.00 | \$ 100,000.00 |
| Tomatoes      | 20     | 100000 | \$ 60,000.00  | \$ 0.60  | \$ 12.00         |          | Net Income    |
| Facility      | 1      |        | \$ 11,000.00  | \$ 0.11  | \$ 1.76          |          | \$ 6,000.00   |
| Labor         | 1      |        | \$ 18,000.00  | \$ 0.18  | \$ 2.88          |          |               |
| Total         |        |        | \$ 94,000.00  | \$ 0.94  | \$ 15.04         |          |               |
| Package       | 1      | 2500   | \$ 1,562.50   | \$ 0.02  | \$ .63           | \$ 12.50 | \$ 31,250.00  |
| Winter Squash | 40     | 100000 | \$ 18,750.00  | \$ 0.19  | \$ 7.50          |          | Net Income    |
| Facility      | 1      |        | \$ 3,437.50   | \$ 0.03  | \$ 1.38          |          | \$ 1,875.00   |
| Labor         | 1      |        | \$ 5,625.00   | \$ 0.06  | \$ 2.25          |          |               |
| Total         |        |        | \$ 29,375.00  | \$ 0.29  | \$ 11.75         |          |               |

|       |  |    |           |    |      |    |        |
|-------|--|----|-----------|----|------|----|--------|
| Total |  | \$ | 19,740.00 | \$ | 0.20 | \$ | 197.40 |
|-------|--|----|-----------|----|------|----|--------|

### Strawberry

|            | Pounds | Total  | Cost of Goods | Unit CoG | 8 qt flat CoG | Price    | Gross Income  |
|------------|--------|--------|---------------|----------|---------------|----------|---------------|
| Package    | 1      | 8333   | \$ 5,000.00   | \$ 0.05  | \$ 0.60       | \$ 12.00 | \$ 100,000.00 |
| Strawberry | 12     | 100000 | \$ 60,000.00  | \$ 0.60  | \$ 7.20       |          | Net Income    |
| Facility   | 1      |        | \$ 11,000.00  | \$ 0.11  | \$ 1.32       |          | \$ 6,000.00   |
| Labor      | 1      |        | \$ 18,000.00  | \$ 0.18  | \$ 2.16       |          |               |
| Total      |        |        | \$ 94,000.00  | \$ 0.94  | \$ 11.28      |          |               |

### Sweet Peppers

|               | Pounds | Total  | Cost of Goods | Unit CoG | 25 lb carton CoG | Price    | Gross Income |
|---------------|--------|--------|---------------|----------|------------------|----------|--------------|
| Package       | 1      | 4000   | \$ 4,400.00   | \$ 0.04  | \$ 1.10          | \$ 22.00 | \$ 88,000.00 |
| Sweet Peppers | 25     | 100000 | \$ 52,800.00  | \$ 0.53  | \$ 13.20         |          | Net Income   |
| Facility      | 1      |        | \$ 9,680.00   | \$ 0.10  | \$ 2.42          |          | \$ 5,280.00  |
| Labor         | 1      |        | \$ 15,840.00  | \$ 0.16  | \$ 3.96          |          |              |
| Total         |        |        | \$ 82,720.00  | \$ 0.83  | \$ 20.68         |          |              |

### Hot Peppers

|             | Pounds | Total  | Cost of Goods | Unit CoG | 25 lb carton CoG | Price    | Gross Income  |
|-------------|--------|--------|---------------|----------|------------------|----------|---------------|
| Package     | 1      | 4000   | \$ 5,400.00   | \$ 0.05  | \$ 1.35          | \$ 27.00 | \$ 108,000.00 |
| Hot Peppers | 25     | 100000 | \$ 64,800.00  | \$ 0.65  | \$ 16.20         |          | Net Income    |
| Facility    | 1      |        | \$ 11,880.00  | \$ 0.12  | \$ 2.97          |          | \$ 6,480.00   |
| Labor       | 1      |        | \$ 19,440.00  | \$ 0.19  | \$ 4.86          |          |               |
| Total       |        |        | \$ 101,520.00 | \$ 1.02  | \$ 25.38         |          |               |

### Carrots

|          | Pounds | Total  | Cost of Goods | Unit CoG | 50 lb bag CoG | Price    | Gross Income |
|----------|--------|--------|---------------|----------|---------------|----------|--------------|
| Package  | 1      | 2000   | \$ 2,000.00   | \$ 0.02  | \$ 1.00       | \$ 20.00 | \$ 40,000.00 |
| Carrots  | 50     | 100000 | \$ 24,000.00  | \$ 0.24  | \$ 12.00      |          | Net Income   |
| Facility | 1      |        | \$ 4,400.00   | \$ 0.04  | \$ 2.20       |          | \$ 2,400.00  |
| Labor    | 1      |        | \$ 7,200.00   | \$ 0.07  | \$ 3.60       |          |              |
| Total    |        |        | \$ 37,600.00  | \$ 0.38  | \$ 18.80      |          |              |

### Onions

|          | Pounds | Total  | Cost of Goods | Unit CoG | 50 lb bag CoG | Price    | Gross Income |
|----------|--------|--------|---------------|----------|---------------|----------|--------------|
| Package  | 1      | 2000   | \$ 2,050.00   | \$ 0.02  | \$ 1.03       | \$ 20.50 | \$ 41,000.00 |
| Onions   | 50     | 100000 | \$ 24,600.00  | \$ 0.25  | \$ 12.30      |          | Net Income   |
| Facility | 1      |        | \$ 4,510.00   | \$ 0.05  | \$ 2.26       |          | \$ 2,460.00  |
| Labor    | 1      |        | \$ 7,380.00   | \$ 0.07  | \$ 3.69       |          |              |
| Total    |        |        | \$ 38,540.00  | \$ 0.39  | \$ 19.27      |          |              |

### Beets

|          | Pounds | Total  | Cost of Goods | Unit CoG | 25 lb carton CoG | Price    | Gross Income |
|----------|--------|--------|---------------|----------|------------------|----------|--------------|
| Package  | 1      | 4000   | \$ 2,400.00   | \$ 0.02  | \$ 0.60          | \$ 12.00 | \$ 48,000.00 |
| Beets    | 25     | 100000 | \$ 18,000.00  | \$ 0.18  | \$ 7.20          |          | Net Income   |
| Facility | 1      |        | \$ 5,280.00   | \$ 0.05  | \$ 1.32          |          | \$ 2,880.00  |
| Labor    | 1      |        | \$ 8,640.00   | \$ 0.09  | \$ 2.16          |          |              |
| Total    |        |        | \$ 45,120.00  | \$ 0.45  | \$ 11.28         |          |              |

### Summer Squash

|               | Pounds | Total  | Cost of Goods | Unit CoG | 50 lb bag CoG | Price    | Gross Income |
|---------------|--------|--------|---------------|----------|---------------|----------|--------------|
| Package       | 1      | 5000   | \$ 3,000.00   | \$ 0.03  | \$ 0.60       | \$ 12.00 | \$ 60,000.00 |
| Summer Squash | 40     | 100000 | \$ 36,000.00  | \$ 0.36  | \$ 7.20       |          | Net Income   |
| Facility      | 1      |        | \$ 6,600.00   | \$ 0.07  | \$ 1.32       |          | \$ 3,600.00  |
| Labor         | 1      |        | \$ 10,800.00  | \$ 0.11  | \$ 2.16       |          |              |
| Total         |        |        | \$ 56,400.00  | \$ 0.56  | \$ 11.28      |          |              |

### Egg Plant

|           | Pounds | Total  | Cost of Goods | Unit CoG | 35 lb bag CoG | Price    | Gross Income  |
|-----------|--------|--------|---------------|----------|---------------|----------|---------------|
| Package   | 1      | 2857   | \$ 5,428.57   | \$ 0.05  | \$ 1.90       | \$ 38.00 | \$ 108,571.43 |
| Egg Plant | 35     | 100000 | \$ 65,142.86  | \$ 0.65  | \$ 22.80      |          | Net Income    |
| Facility  | 1      |        | \$ 11,942.86  | \$ 0.12  | \$ 4.18       |          | \$ 6,514.29   |
| Labor     | 1      |        | \$ 19,542.86  | \$ 0.20  | \$ 6.84       |          |               |
| Total     |        |        | \$ 102,057.14 | \$ 1.02  | \$ 35.72      |          |               |

The produce inventory taken by VAADC project partner Buy Fresh Buy Local SD in 2014 provided insight to the amount for fruit and vegetables available and the expected price for the product. Many vegetable varieties are in sufficient quantities to provide efficiency in the facility. The price concern is evident in this survey as most requested prices trend higher than the recent wholesale prices. Producers will need to evaluate the advantages a processing facility can offer and determine if a compromise regarding price can be achieved. The facility can pursue strategies to capture the higher value through things like increased grading and/or packaging standards and niche marketing.

### Producer Inventory 2014

| Product     | Available   | Cost (\$)  | Quality Available | Total Product |
|-------------|-------------|------------|-------------------|---------------|
| Apples      | September   | 14.00/bu   | 40 bu             | 1,080 bu      |
| Apples      | September   | 16.00/bu   | 1,000 bu          |               |
| Apples      | September   | 18.00/bu   | 40 bu             |               |
| Asparagus   | May         | 3.00/lb    | 600lb             | 600 lb        |
| Beets       | July/August | 1.50/lb    | 300lb             | 300 lb        |
| Cabbage     | August      | 3.00/head  | 100 head          | 10,500 head   |
| Cabbage     | July        | .70/lb     | 300 lb            |               |
| Cabbage     | July        | 2.00/ head | 10,000 head       |               |
| Cabbage     | July        | 3.00/ head | 300 head          | 20,500 lb     |
| Cucumber    | August      | .50/ each  | 500 cukes         |               |
| Cucumber    | May         | .50/ lb    | 20,000 lb         |               |
| Eggplant    | August      | 1.00/ Each | 300 eggplants     | 300 eggplants |
| Green Beans | July        | .90/ lb    | 10,000 lb         | 14,000 lb     |
| Green Beans | July        | 1.10/ lb   | 6,000 lb          |               |
| Muskmelon   | August      | .20/ lb    | 4,000 lb          |               |
| Muskmelon   | September   | .20/ lb    | 10,000 lb         | 252,000 lb    |
| Onions      | August      | .50/lb     | 2,000 lb          |               |
| Onions      | August      | .40/lb     | 150,000 lb        |               |
| Onions      | September   | .50/lb     | 100,000 lb        | 252,000 lb    |
| Potatoes    | August      | .50/lb     | 100,000 lb        |               |



|               |           |           |                |                |
|---------------|-----------|-----------|----------------|----------------|
| Potatoes      | August    | .40/lb    | 150,000 lb     | 252,000 lb     |
| Potatoes      | September | .50/lb    | 2,000 lb       |                |
| Sweet Corn    | July      | 2.00/ doz | 3,000 doz      | 4,000 doz      |
| Sweet Corn    | July      | 4.00/ doz | 1,000 doz      |                |
| Sweet Peppers | Aug/Sept  | .50/each  | 10,000 peppers | 36,000 peppers |
| Sweet Peppers | July      | .50/each  | 300 peppers    |                |
| Sweet Peppers | July      | .50/each  | 300 peppers    |                |
| Sweet Peppers | July      | .50/each  | 400 peppers    |                |
| Sweet Peppers | July      | .45/each  | 25,000 peppers | 40,500 lb      |
| Tomato        | July      | 2.00/ lb  | 500 lb         |                |
| Tomato        | May       | 2.00/ lb  | 40,000 lb      | 15,000 lb      |
| Watermelon    | September | .18/ lb   | 15,000 lb      |                |
| Winter Squash | October   | .50/ lb   | 1,000 lb       | 187,000lbs     |
| Winter Squash | October   | .40/ lb   | 70,000 lb      |                |
| Winter Squash | October   | .40/ lb   | 10,000 lb      |                |
| Winter Squash | September | .48/ lb   | 6,000 lbs      |                |
| Winter Squash | September | .50/ lb   | 10,000 lbs     |                |

Growers must become innovative to understand the dynamics of transferring commodity products to niche products with branding techniques, efficient distribution and competitive pricing. Employing and training the right personnel to complete the tasks requires skill sets to transfer from a production thought process to a marketing, inventive thought process.

The South Dakota produce production inventory provided evidence growing capacity is present when a viable market is available. The feasibility of this project is dependent on collaborative approach to provide funds to finance the facility and expanding produce volume to create a profitable entity. Price will be a factor in this marketplace and consideration needs to be given how participation in the market will benefit each producer.

#### Processing Facility 3 Year Financial Cash Flow Summary

|                          | <u>Year1</u>      | <u>Year2</u>      | <u>Year3</u>      |
|--------------------------|-------------------|-------------------|-------------------|
| <b>Revenues</b>          |                   |                   |                   |
| Total Revenues           | \$ 175,000        | \$ 300,000        | \$ 500,000        |
| Cost of Goods            | \$ 105,000        | \$ 180,000        | \$ 300,000        |
| <b>Gross Revenue</b>     | <b>\$ 70,000</b>  | <b>\$ 120,000</b> | <b>\$ 200,000</b> |
| <b>Expenses</b>          |                   |                   |                   |
| Selling Expense          | \$ 5,250          | \$ 9,000          | \$ 15,000         |
| General Expense          | \$ 72,500         | \$ 110,000        | \$ 175,000        |
| <b>Total Expense</b>     | <b>\$ 77,750</b>  | <b>\$ 119,000</b> | <b>\$ 190,000</b> |
| <b>Net Income</b>        | <b>\$ (7,750)</b> | <b>\$ 1,000</b>   | <b>\$ 10,000</b>  |
| <b>Cumulative Income</b> | <b>\$ (7,750)</b> | <b>\$ (6,750)</b> | <b>\$ 3,250</b>   |

4. VAADC/partners will conduct outreach-education identify, recruit and register buyers representing local grocery stores, restaurant and other retail businesses; along with schools and other institutions.

- *Partner with South Dakota Specialty Growers, South Dakota State University and Dakota Rural Action to create steering committee to start a food hub*
- *SDSU given lead and secured grant to focus on food distribution barriers and identify food hub as business model to pursue*
- *Current food hub organization activities are promotion proposals, identifying and securing buyers, securing growers and analyze financial reports*
- *Fifteen (15) buyers verbally committed to participating in the food hub currently in organizing phase. Majority of current buyers are restaurants, as production increases the potential is good to expand to institutions.*

## **Goals and Outcomes Achieved**

As the information above shows for each of our four project areas we were able to meet stated goals of identifying growers, providing outreach for production practices, educating growers on processing/ marketing/distribution aggregation, and engaging some of them in financial projections and current production inventory to determine sufficient quantities to operate a processing facility. The shortfall was in registering growers to participate in the wholesale market. Many growers are selling directly to the consumer and will not sell the same product for 50% less in the wholesale market. There are several growers willing to grow for the wholesale market and as evident in the producer survey, many products are in volumes to support operation of an efficient food hub operation.

| Goal  | Performance Measure  | Benchmark | Target     | Actual     |
|---|--|-----------|------------|------------|
| 1. Online Marketplace concept grower outreach-education   | Number of growers contacted  | 0         | 40 growers | 54 growers |
| 2. Identify eligible grower participants                  | Number of grower participants secured  | 0         | 20 growers | 25 growers |
| 3. Grower registration                                    | Grower completion of business plan module / GAP training / other registration criteria | 0         | 17 growers | 9 growers  |
| 4. Online Marketplace outreach-education to target buyers | Number of buyer participants secured   | 0         | 10 buyers  | 15 buyers  |

## **Beneficiaries**

The project has generated support that resulted in creating committees to research and provide suggestions to initiate a food hub as a means to facilitate specialty produce distribution. While this project originally began as an opportunity to assist Red Earth Coop in Vermillion the activities that evolved have provided learning and sparked interest in growers that in turn have assisted SD Food Coop in Brookings/Sioux Falls as they work with growers to provide product. And it has created a foundation for South Dakota State University to explore addressing the local food distribution challenge via establishment of a food hub system. Sharing pricing scenarios with growers is enhancing their ability to be competitive in the marketplace and analyze growth potential of their operations. Finally, the preliminary outline of a processing facility

operation is providing a model for VAADC to use with a food system project on the Pine Ridge Reservation.

## **Lessons Learned**

This project validated what we tend to find with agricultural producers in our state – they are inclined to be very independent and find it difficult to ‘expose’ their operations to others. As reported in our SCBG 2011 Phase 1 of this project, the time needed to educate growers and bring them together made it unrealistic to meet our ultimate goal of creating an Online Marketplace at this stage of the state’s local food status. While our ultimate goal efforts were impeded we gained valuable information that will foster work with future projects.

- A steering committee needs to be comprised of champions with willingness to make long term commitment for consistency.
- Champions take charge to conduct community meetings – be the face of the project.
- Meet regularly...determine frequency by the length of the campaign. If it is a 12 week campaign, try to meet weekly...12 month campaign, meet monthly.
- Develop business plan to create ‘reality’ to share with prospective growers/members (anticipated facility, grower expectations, produce needed, grower benefit/return, project cost, income-expense, investment opportunity, etc)
- Setup promotion campaign...create reporting strategy (Progress Thermometer, PSA’s, social media)...generate enthusiasm.
- Develop and stick to marketing plan to reach intended audience, benchmarks, expense budget.
- Create survey for membership ideas, comments, tips...Survey Monkey is simple, easy to use.
- Stay focused, delegate new members to tasks to foster engagement.
- Determine exit strategy in the event the project does not successfully move forward.

## **Project 6**

**Title –** Regional Light Agricultural Processing Facility Tool Kit

**Subgrantee –** Dakota Rural Action

## **Final Report**

### **Project Summary**

- Provide a background for the initial purpose of the project, which includes the specific issue, problem, or need that was addressed by this project.

Small to midscale processing was needed by many of South Dakota’s Specialty Crop Producers to move forward. As schools, restaurants and other retail venues gained interest in specialty crops, the need increased for licensed processing facilities to create products usable by these customers. Farmers and specialty crop producers also needed a place to create value-added products they can offer through a variety of venues. Value added products are an important ingredient to making local food producers profitable. Lack of access to this market puts local foods producers at an economic disadvantage.

The Upper Missouri Valley Local Foods (UMVLF) project planned on having an 800 square foot light agricultural processing facility operating in Vermillion, SD answering these needs in the region. The purpose of this proposal was to document this process and develop a tool kit helping other communities develop needed processing.

- Establish the motivation for this project by presenting the importance and timeliness of the project.

DRA members including those involved in the UMVLF were looking for ways to improve and increase the market for specialty crops. The UMVLF was a timely opportunity to learn from a process developing an processing facility.

- If the project built on a previously funded project with the SCBGP or SCBGP-FB describe how this project complimented and enhanced previously completed work.

## **Project Approach**

- Briefly summarize activities performed and tasks performed during the grant period. Whenever possible, describe the work accomplished in both quantitative and qualitative terms. Include the significant results, accomplishments, conclusions and recommendations. Include favorable or unusual developments.
  - Hired an intern to produce an outline of the tool kit, conduct interviews and information for the tool kit.
  - Helped hold a tour of the Deuel Area Community kitchen for USDA's Lillian E. Salerno and SD Rural Development Director Elsie Meeks with Deuel Area Development Incorporated.
  - Included information about small scale value added and the Deuel Area Community Kitchen in last winter's Farm Beginnings Class for 14 beginning farm families.
  - Engaged in and helped advance a food hub plan in eastern South Dakota.

Most significantly DRA didn't produce the tool kit and has not requested the remainder of the grant. Several factors influenced this outcome. First the progress of the UMVLF was slowed for several reasons including changes in leadership. In addition the specialty crop producing members of Dakota Rural Action began to realize the expansion of the markets for specialty crops went beyond the need for processing.

In fact questions around a better understanding of the market in South Dakota for specialty crops is the focus of a meeting being planned for this fall. In addition members have worked in conjunction with SD Extension to develop a food hub for eastern South Dakota in a manor it can be replicated.

- Present the significant contributions and role of project partners in the project. Although not listed in the original grant proposal, the partnership with the South Dakota Extension Service in developing, planning and organizing the local food hub has been significant and rewarding. Through this partnership the Food Hub has selected a name, "Dakota Fresh" and recruited produces in eastern South Dakota. They have held three "Meet the Farmer" events for area restaurants, featuring these producers, a chef from Illinois who has built a strong relationship with a similar food hub and the organizer of that food hub.

## **Goals and Outcomes Achieved**

- Supply the activities that were completed in order to achieve the performance goals and measurable outcomes for the project.
  - Hired an intern to produce an outline of the tool kit, conduct interviews and information for the tool kit.
  - Helped hold a tour of the Deuel Area Community kitchen for USDA's Lillian E. Salerno and SD Rural Development Director Elsie Meeks with Deuel Area Development Incorporated.
  - Included information about small scale value added and the Deuel Area Community Kitchen in last winter's Farm Beginnings Class for 14 beginning farm families.

- Engaged in and helped advance a food hub plan in eastern South Dakota.
- If outcome measures were long term, summarize the progress that has been made towards achievement.

See Above

- Provide a comparison of actual accomplishments with the goals established for the reporting period.

After the preliminary work on the Tool Kit took place, events and member interests took this work in a different direction. Since the grant was written specifically to produce a tool kit no additional funds were requested for this work once the primary work toward the tool kit was accomplished.

With that being said the accomplishments made in developing new markets for specialty crops through the Dakota Fresh Food Hub and recent discussions about working to better understand and improve the market for specialty crops are significant and important.

- Clearly convey completion of achieving outcomes by illustrating baseline data that has been gathered to date and showing the progress toward achieving set targets.

No information has been gathered that rises to the level of baseline data in this project. Ken Meter recently completed a study of North Dakota REAP Zones called, "Next Steps for North Dakota REAP Zones (CONAC and Southwest)." This document is interesting due to the very rural aspects of North Dakota's REAP zones and the potential similarities with rural South Dakota. Once again, Meter's economic research shows millions of dollars leaving these rural areas for the purchase of food, much of which could be grown locally.

Meter's study identified several infrastructure improvements which would be important for supporting specialty crop production including Community Kitchen Spaces where people can access certified commercial space to add value to raw farm products and share food preparation skills. This is similar to the relationship developed in Deuel County between DRA, Deuel Area Development Inc. and the Deubrook School District in the creation of the Deuel Area Community Kitchen.

In addition DRA members have identified the need to increase our understanding of the local market for specialty crops. While many people support specialty crop producers and the idea of local markets, the markets appear to be very shallow as consumers struggle with what to do with raw products rather than processed foods. Changing eating and buying habits will be important in expanding this market.

### **Beneficiaries**

- Provide a description of the groups and other operations that benefited from the completion of this project's accomplishments.
- Clearly state the quantitative data that concerns the beneficiaries affected by the project's accomplishments and/or the potential economic impact of the project.

As the work on this project was only just beginning and after the preliminary work on the Tool Kit took place, events and member interests took this work in a different direction. Since the grant was written specifically to produce a tool kit no additional funds were requested for this work once the primary work toward the tool kit was accomplished. So there are not beneficiaries to report specific to this project.

With that being said the accomplishments made in developing new markets for specialty crops through the Dakota Fresh Food Hub and recent discussions about working to better understand and improve the market for specialty crops are significant and important. This work has the potential to impact a significant number of specialty crop producers. However this work is not directly related to the Regional Light Agriculture Processing Facility Tool Kit project.

## **Lessons Learned**

- Offer insights into the lessons learned by the project staff as a result of completing this project. This section is meant to illustrate the positive and negative results and conclusions for the project.

The main insight in this process was how priorities change in this fast moving work. The tool kit will be an important and useful tool when it's completed but with everything we must prioritize the resources we have based on the best information we can get and the input and direction of our members. Often priorities change quickly leaving projects like this one at loose ends.

However, the preliminary work is done and still an important resource that will be used in the future.

- Provide unexpected outcomes or results that were a effect of implementing this project.
- If goals or outcome measures were not achieved, identify and share the lessons learned to help others expedite problem-solving.

See Above

## **Contact Person**

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## **Additional Information**

- Provide additional information available (i.e. publications, websites, photographs) that is not applicable to any of the prior sections.

## **Project 7**

**Title –** Specialty Crop Juicing Services

**Subgrantee –** Crocus Industries

## **Final Report**

### **PROJECT SUMMARY:**

The Specialty Crop Juicing Service project was funded to assist South Dakota specialty crop growers in juicing their crops. In past years, my family experienced firsthand the challenges of efficiently processing our raw crops of grapes and apples into easily consumable juices.

Without expensive processing equipment, specialty crop growers have limited options for their harvests. This project offered free specialty crop crushing and juicing services to those growers who did not have their own equipment. The project was grounded by local food production principles as awareness and demand have increased for locally grown food. Many South

Dakotans are increasing personal gardening and planting fruit trees and berry bushes. As a result, the project was timely in offering processing services for statewide growers.

### **PROJECT APPROACH:**

This project provided free specialty crop juicing services for any South Dakotan requesting the service. The growers learned of our services in various ways. We placed fliers throughout the Black Hills, placed information on different email lists and Craigslist, and details were passed through word of mouth of co-op growers, extension agents, farmer's markets and other advocates of the program. When contacted, we offered the services at their convenience and pending their crop maturity. The growers scheduled their crop juicing time and some brought their harvests to the processing facility. As an alternative, some growers did not have the resources to deliver their apples and so we provided transportation. The growers were responsible for providing their own juice containers. More than 263 hours were spent on juicing services alone, not including the construction personnel portion of the project. In addition, dozens of hours were volunteered to assist in apple picking with various growers and transporting fruits and juices. Twenty different growers/presses were performed, processing harvests into apple, aronia, pear and grape juice.

Project partner, Rhoda Burrows, disseminated our juicing service information on her website databases. She was instrumental in notifying other fruit growers of our services. Last year, she connected our services to Stewart's Aronia Acres near Wagner, SD. They hauled thousands of pounds of aronia berries to our facility and utilized our free juicing services. We adapted our grape destemmer/crusher to the aronia harvest and successfully processed their berries into juice. This year, Rhoda Burrows provided our services information to Christopher Krause of Krause Family Orchard. He provided a variety of apples for pressing. Hal Werner of Muddy Pumpkins Farm near Oacoma, South Dakota, also learned of our services through Rhoda Burrows.

### **GOALS AND OUTCOMES ACHIEVED:**

The following activities were performed over the two growing seasons pertaining to the grant period:

- Fruit Shredder purchased and assembled.
- Plumbing: Pipes moved to accommodate hot water heater and water source to the juicing area.
- 50 gallon gas hot water heater installed.
- Juice processing room ceiling torn out and replaced with metal.
- Site inspection and consultation with Alison Kiesz in March, 2013
- Website address purchased for future juicing promotion page
- Promoted the project with gardening groups, retailers, farmers markets, SDSU Extension (Rhoda Burrows), Buy Fresh Buy Local (Pat Garrity), Dakota Rural Action (Holly Tilton Byrne), OCIA SD (Wilford Secker), Farmer's Market (Spearfish, SD), co-op references.
- Juicing information placed on pertinent email lists and Facebook.
- Fliers created and duplicated for distribution to retail establishments, posting boards, libraries, and farmer's market.
- Spoke to dozens of women at South Dakota Women in Agriculture Conference in Keystone, SD about specialty crops and upcoming free juicing services.
- Dishwasher, stainless steel counter and automatic bottle filler purchased.
- Had numerous conversations with large in-state orchards for possible juicing relationship.

- Collected apples for people who were not able to pick their own harvests and returned juice to them.
- Prepared and sanitized processing room and equipment for juicing seasons.
- Performed juicing services for twenty different apple tree/grape/pear/aronia berry owner harvests. In addition, we processed our family farm harvests of grapes and apples.

### **Performance Goals:**

A short term goal of the project was to increase the awareness and utilization of specialty crops through the juicing services. Of the twenty presses, all twenty of the growers appreciated the service and nineteen wish to participate in future years.

Long term goals of the project included a changed perspective of potential local specialty crop growers, where they could see the possibility of growing crops as a viable and wise alternative to purchasing foods from non-local sources. This goal was clearly met because growers were able to see the potential for juicing their crops and began to explore issues such as retail standards, pasteurization, proper containers for sales at farmer's markets, etc. One grower was so impressed with the process that he called his adult son who worked in agriculture and requested he watch the juicing process and begin harvesting his own apples next year for juicing.

Another grower who owned a day care center for children, had her kids assist in picking apples from their tree. They participated in the process and were then able to share the juice once it was pressed.

Our own specialty crop program was immensely enhanced through this project. The grant allowed the repurposing of 220 square feet of under-utilized warehouse space, dedicating the space to specialty crop processing. The project also helped purchase the commercial grade apple shredder which was critical in the successful juicing process. We now have the proper equipment and facility to juice our own grapes and apples efficiently. Our goal is to create marketable vinegar from our future harvests.

We did not meet the goal to develop a webpage but it did not adversely affect the participation in the project. We used Facebook, phone contacts, texts and email to communicate with our prospective juicers and since the individual presses took more time than anticipated in the grant request, we could not accommodate more growers under the personnel expense portion of the grant.

Our goal to provide juicing services to thirty growers was not met. We were not aware of the extensive personnel time required to maintain sterilized equipment and process the harvests. All personnel hours were utilized before our twenty presses were completed and as a result, we donated our time for the remaining presses.

### **BENEFICIARIES:**



Individual growers were the beneficiaries of the project. A few examples follow:

In 2013, Jeff and Jolene Stewart of Stewart's Aronia Acres utilized our juicing services. The 2013 season was their first large harvest due to their purchase of a harvester from Poland. Unfortunately, they did not yet have juicing equipment since they were at the initial stages of their venture. Thankfully, Rhoda Burrows connected them to our project and after hours of conversations and brain storming, they traveled from Wagner, South Dakota to juice thousands of pounds of aronia berries. The Stewart's placed their juice in half gallon plastic containers for freezing.

In 2014, Curt Strickland's Orchard near Sturgis, South Dakota had no means for juicing his twenty different varietal apple trees. He estimated a juice harvest of 3000 pounds of apples. In past years, Strickland was not able to utilize his orchard because he had no avenue to easily preserve his crop. After juicing his apples, he froze the juice in containers for later dissemination.

Also in 2014, Hal Werner of Muddy Pumpkins Farm near Oacoma, South Dakota learned of our services. To this point, Werner had focused primarily on regional distribution of his heritage tomato crop. This year, he also utilized his apple harvest since it could be processed into juice through our project. He drove his vehicle across the state, loaded with apples and sixty new gallon containers for his juice. With his volunteered help, we successfully processed his apples in six hours with just two paid workers.

The following quantitative data are approximations of the harvests and juice production:

2013 – 6,000 - 8,000 pounds of aronia berries pressed into an unknown amount of juice, estimated at 300 gallons of aronia juice.

2013 – 50 bushels of apples pressed into 110 gallons of apple juice.

2013 – 1 bushel of pears pressed into two gallons of pear juice.

2013 – 12 bushels of grapes pressed into 22 gallons of grape juice.

2014 – 60 bushels of apples pressed into 190 gallons of apple juice.

2014 – 22 bushels of grapes pressed into 57 gallons of grape juice

## **LESSONS LEARNED:**

We did not anticipate three devastating hailstorms throughout the Black Hills during blossom and early fruit set season in 2013. Personally, our 2013 grape and apple harvests were virtually destroyed. Other growers who experienced lighter hail, were actually extremely thankful for juicing services because the damaged visual appearance of their fruit made it extremely suitable for juicing. Since the weather seemed to limit harvests, we extended the grant project for another year to gain an additional harvest for our juicing service.

Many of the 2013 growers did not prune their trees during the 2013 season. As a result, their 2014 season was weak. We anticipate their trees will be more bountiful in 2015 and they will likely reach out for our services again.

Our grant proposal focused on informing the growers of their juicing option and then making appointments for juicing services. Instead, we found some growers who would not commit to picking their harvest or reliably deliver their fruit to be juiced. In the spirit of community awareness and for the best results of the grant, we voluntarily picked fruit for the growers who were physically unable or unwilling to do it themselves.

Although we asked for funding for juice containers, the final grant approval did not allocate funds for the containers. It seems reasonable that the grower should at least provide the containers when they are receiving free juicing services. However, the actual impact of not providing containers resulted in small grower frustration. Many could not seem to problem solve their own container issues. Instead, they often did not bother bringing their harvest to the facility.

In analysis of our thirty grower goal, it has become clear that the word of mouth and participation of the expected type of grower does not happen as smoothly and quickly as one may anticipate. Nearly every task we completed took numerous hours of extra effort which was not covered by the grant. We learned that grant objectives should possibly be more specific and realistic.

As a community service, our goal is to continue to offer juicing services in 2015 and beyond for growers on a 50% share basis. To simplify the process, we plan to offer clean containers at a minimal cost to the grower. Our share of the juice produced will go toward expanding our research and production of a variety of fruit vinegars.

#### **CONTACT PERSON:**

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## **Project 8**

**Title –** Tillage Evaluation and Demonstration for Specialty Crop Production

**Subgrantee –** Muddy Pumpkin Farms

### **Project Summary**

We did learn a great deal from our experiences during this project. We also built our repertoire of tillage implements. However, the capital outlay for the equipment that we obtained will take several years to recoup. Our operation is not that large and likely does not justify as much equipment as we have. It certainly would not justify the purchase of all new equipment.

The tradeoff of equipment versus hand labor poses a dilemma in that the equipment is needed when labor is not available. Finding labor is difficult, and experienced workers need to

be paid well. Regardless, any organic specialty crop system needs to be “labor rich” to succeed. This applies to planting, harvesting, and marketing.

Tillage is only one part of achieving success in a specialty crop system like ours. Fertility management, pest management, product handling, and markets are all essential. A further complication is that they are interrelated. One example, we really like using plastic mulch for weed control and water conservation. However, the plastic mulch serves as a refuge for insects and mice. As a result, for the past three years we have lost all of our squash and pumpkins along with a large portion of the melons due to squash bugs, crickets, and mice. No organic pest control can kill them when they retreat under the plastic. Another example is the use of cover crops. We value cover crops as important in our weed and nutrient management. But due to unfavorable weather, we have had difficulty establishing the cover crops when we should. This past fall, we planted winter rye on all of our harvested fields. None of it was successful because of the extreme drought. Then over the winter wild turkeys ate all of the seed, so it wasn't even available to sprout this spring.

Through support from the SCBG project we were able improve several aspects of our operation. More work is necessary; however, to match tillage techniques to our region of the country since conditions are different than most of the traditional areas of vegetable crop production.

### **Project Approach**

Tillage equipment can be classified into primary and secondary operations. Primary tillage was completed on the field areas each year. Initially, we used a moldboard plow to break grass sod. This was followed by disking to smooth the plowing. Since that first year, the disk remains our implement of choice for primary tillage before planting. The spader was also used in 2013 to break sod and before the 2014 season to incorporate cover crop trash and weed residue where the disk was unable to penetrate the trash.

Secondary tillage is tillage after the crop is planted. Initially, we were relegated to using a walk-behind rototiller and manual weeding. Though not an actual tillage operation, we used plastic mulch to reduce the area that is open to weed invasion. Plastic mulch became the single most effective weed control practice to minimize weed pressure with crops suited to the practice. The walk-behind rototiller and manual weeding continued to be used to control weeds along and between the plastic beds.

Below are descriptions of various implements that we use in our specialty crop production. Some are smaller versions of implements used in conventional farming. Others are designed specifically for use in small scale farming. Many of our implements are older vintage or purchased used and have been adapted to our specific needs. Items that were purchased new were not readily available as used. A list of other resources describing tillage options is given at the end of this report.

### **Goals and Outcomes Achieved**

As outlined in our first report, we didn't receive project funding in time to start field work as planned until 2013. As a result we needed to extend the project through the 2014 summer. This delayed completion of field work on the project until after the 2014 season.

Tillage is needed to incorporate compost and cover crops, prepare planting beds, and control the weed pressure. We have been able to develop a system of equipment and tools to match our tillage needs. We obtained the following equipment in developing the tillage system: disk, walk-behind rototiller, spader, tractor rototiller, plastic layer, middle buster, field cultivator, rolling cultivator, and bed builder. We have also adapted non-tillage techniques as part of our weed control system. Using the plastic much is very effective for weed control as is use of cover crops.

Two of the expected activities and outcomes could not be completed. We tried to find suitable school and community gardens within a workable distance of our farm. The St Joseph Indian School has a garden, but it was too small for use with our equipment. Chamberlain has a community garden, but they already have another farmer that does the primary tillage on the plot. As a result the planned school and community gardens activities were not completed and budgeted expenses were reduced.

We were not able to resolve scheduling conflicts to host our planned field day during the summer of 2013. We did host the farm field day on June 12, 2014. We worked with SDSU Extension, SDSPA and Dakota Rural Action to publicize the field day date and activities. Dakota Rural Action posted the field day announcement to their statewide farmer network and coop members. SDSPA posted it to their Facebook page. Central Dakota Times (newspaper) ran a feature promoting the field day. An announcement on our Facebook page reached 19 people with 10 engaged. We were understandably disappointed when fewer than 20 people attended the field day. Maybe we are too remote for most people.

Information on our tillage activities has been posted on our web site and our Facebook page. One posting on Facebook about the tillage work had 179 people reached with 6 likes and 74 views of the photos. Many emails and Twitter postings were part of our outreach.

Plans to present project results and information on tillage at statewide meetings did not develop. I volunteered to speak at some of the functions but was not invited.

### **Beneficiaries**

We did host the farm field day on June 12, 2014. We worked with SDSU Extension, SDSPA and Dakota Rural Action to publicize the field day date and activities. Dakota Rural Action posted the field day announcement to their statewide farmer network and coop members. SDSPA posted it to their Facebook page. Central Dakota Times (newspaper) ran a feature promoting the field day. An announcement on our Facebook page reached 19 people with 10 engaged. We were understandably disappointed when fewer than 20 people attended the field day. Maybe we are too remote for most people.

### **Lessons Learned**

The challenges of raising specialty crops organically are many. From prior experience raising livestock feed crops, we had already experienced the issues of weed pressure. What has amazed us is the magnitude of not only the traditional weeds but other lesser known weeds that challenged us with our vegetable production. As mentioned before, we soon recognized the inadequacy of using manual labor for our operation. Thus, we pursued the SGBG to assist us in this endeavor. It should be mentioned that no-till is not a valid method with organically produced vegetables.

Even though the plastic mulch layer is not specifically a tillage implement, using plastic mulch became our single most effective weed control. Our other tillage tools became part of a system of field management for the plastic mulch and also where plastic was not used.

Another management practice that we used involved planting a winter rye cover crop after harvest in the fall. We planted one field in fall 2012 preparing to plant potatoes the next spring. In the spring we then used the disk to create lanes in the rye where we planted potatoes leaving strips of rye between the potato rows (Figure 12). We modified the plastic layer using only the disk blades to build the ridges into which the potatoes were planted. The disk blades on the plastic layer were also used to hill the potatoes and cultivate the weeds along the edges of the potato rows. The rye was very effective in reducing the weed pressure between the rows. We adopted this practice and planted rye in the fall of 2013 for all of our potatoes in 2014. This practice did not work in preparing for 2015 since the soil was too dry in the 2014 fall to establish the rye cover crop.



Figure 12 – Use of winter rye cover crop between potato rows.

Initially, we tried to space the plastic mulch rows for most crops as close as possible together. However, this required more of the “dreaded” hand weeding. For 2014 we widened the space between the plastic rows. This allowed us to use tillage implements such as the disk, tractor rototiller, or rolling cultivator to control weeds between the plastic beds, resulting in much reduced hand weeding. It would also be feasible to plant cover crops between the plastic beds and mow them to control weeds. We plan to trial that in the future.

We were able to find a used 4-row rolling cultivator to purchase. The cultivator was modified to use on single rows and also to weed along the plastic mulch edges. The rolling cultivator can handle more troublesome weed problems where some other tools, such as a basket weeder or tine weeder, may not prove effective.

Removing the plastic mulch is a difficult and dirty task. Since we are using more plastic mulch than originally anticipated, we needed a better way to remove the plastic. Our operation

is not large enough to justify purchasing a dedicated implement for the task. However, we modified the field cultivator to assist in extracting the plastic mulch. Two shovels were aligned to lift the plastic edges. This worked reasonably well except for areas where weeds had not been well controlled.

I would be remiss if I didn't discuss the importance of "hand tillage" tools, though not usually considered tillage equipment. We have an extensive battery of handheld tools including hoes, shovels, digging forks and rakes. These are necessary to complement any of the powered tillage implements. Especially useful for weeding within rows and along plastic edges are the scuffle hoes. Matthew, a family member involved with the project, also designed and fabricated several specialty hoes that we have found very useful.

### **Contact Person**

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### **Additional Information**

Figure 1 – Moldboard plow used for primary tillage to break sod.

Disk harrow (Figure 2): The disk incorporates a series of rolling blades that cut and mix the surface soil. The disk is a versatile tool for general field work and field preparation. It can be used for primary tillage of previously farmed soil but is not effective at eliminating grass sod. Our disk was purchased used at about 1/2 the cost of new.



Figure 2 – Disk used as primary tillage.

Field cultivator (Figure 3): The field cultivator is used for cultivation before planting. We also remove some of the cultivator shanks to adapt the unit for cultivating single rows of vegetables. Also we use the cultivator with two properly spaced shanks to loosen the edges of the plastic mulch for removal.





Figure 3 – Field cultivator digging weeds (field bindweed) in preparation for planting.

Rototiller (Figure 4): Rototillers have cutting blades that rotate on an axle and come in various sizes from walk-behind to tractor mounted. Our walk-behind and tractor rototillers were purchased new. They were used to prepare the seed bed for planting and for cultivation and weed control during the crop season. We also use the tractor rototiller as the last pass over the soil before laying the plastic mulch. The walk-behind is primarily used for small areas and cultivation between rows. It was not suitable for breaking sod.



Figure 4 – Tractor mounted rototiller preparing bed for plastic mulch.

Spader (Figures 5 and 6): The spader is a machine that operates on a principle similar to hand spading. The action of the spader leaves the seed bed ready for planting without creating a tillage (plow) layer in the soil. The machine is also suited to incorporation of cover crops. The spader is seldom used for cultivation during the season. We purchased our spader new from a dealer since used units were not available in our area.

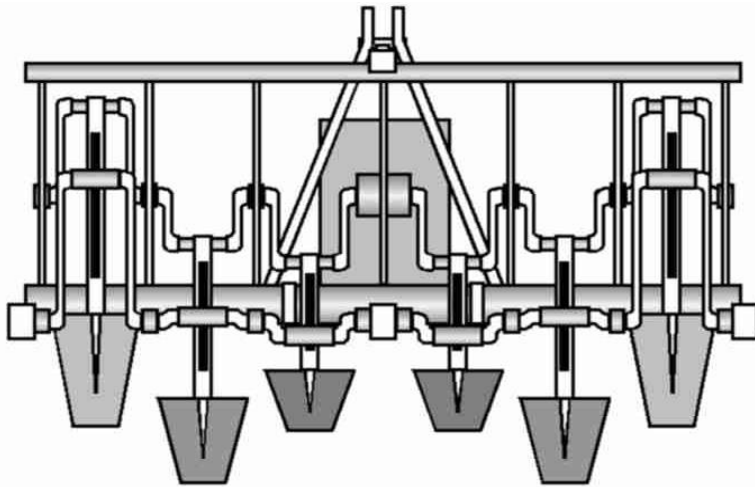


Figure 5 – Diagram digging spades on the spader machine.



Figure 6 – Spader in operation.



Bed builder (Figure 7): We assembled parts from an old lister cultivator using the tool bar and disk blades to hill the beds for potatoes and sweet potatoes. This will work better than using the plastic layer implement. The unit will also be used to cultivate the potatoes during the season.



Figure 7 – Bed builder built from old parts is used to hill and cultivate potato rows.

Rolling cultivator (Figures 8 and 9): Rolling cultivators have been common in production farming, especially before GMO herbicides. We adapted parts from an old 4-row rolling cultivator to make an implement to cultivate along the edges of the plastic mulch and along single rows of vegetables without plastic. The cultivator is also used to weed the sides of potato hills and build the hills. It is a versatile tool that can be adjusted for a variety of tasks.



Figure 8 – Rolling cultivator built from parts adapted from an old 4-row cultivator.





Figure 9 – Rolling cultivator weeding potato hills.

Plastic layer (Figure 10): Beyond the obvious task of laying plastic mulch, we have used the plastic layer with the layer raised to hill the beds for potatoes. Together with the middle buster, we create the hills, then the trench for the seed potatoes and drip tube, before covering the seeds with an additional pass of the plastic layer.



Figure 10 – Plastic layer with drip irrigation tube installation and hole punch.

Middle buster or potato plow (Figure 11): The middle buster is shaped much like a lister furrower. We use it to create furrows for planting potatoes. Its primary use is for digging potatoes. It has other uses around the farm including shallow trenching.



Figure 11 – Middle buster used to create furrow in ridges for planting potatoes.

## References and Resources

South Dakota Climate Office, South Dakota State University, Brookings, SD.

Steel in the Field, A Farmer's Guide to Weed Management Tools, SARE.

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An Organic Weed control Toolbox, Cooperative Extension.

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Cultivation Equipment for Weed Control: Pros, Cons, and Sources, the University of Vermont.

<http://www.uvm.edu/vtvegandberry/factsheets/cultivators.html>

ATTRA, The National Sustainable Agriculture Information Service, National Center for Appropriate Technology (NCAT).

<https://attra.ncat.org/index.php>

## Project 9

**Title** – Demonstrating Sustainable Hop Production in Eastern South Dakota

**Subgrantee** – Anderson Hop Farm

**Contact Person** – Janelle Johnson | 605-201-4909 | ahopfarm@yahoo.com



## **Final Report**(Previously Submitted Final Report)

### **Project Summary**

Demonstrating a sustainable hop production in Eastern South Dakota was the initial purpose of this project. Steve Polley was the first in the state to determine whether or not hops would grow in South Dakota however, this had yet to be done on the Eastern side of South Dakota and there was a direct need to explore this market and opportunity for this specialty crop. In establishing a hop farm that is sustainable in South Dakota this project would show that by capturing a share of the hop market, hops can create a direct economic impact in South Dakota.

Hops are a perennial plant that require time for establishment before achieving optimal yield. By creating a hop farm that has the ability to show and teach other farmers in South Dakota about hops will increase the chance of retaining a portion of the hop market and allow beginning farmers will tested proven results in the production and distribution of hops grown in the state.

Demonstrating Sustainable Hop Production in Eastern South Dakota is a slight extension of Steve Polley's previously funded grants. I took Steve Polley's idea of South Dakota grown hops and researched the possibility of hop crop production methods, growing techniques, market feasibility and distribution needs within the state. For this project to be feasible and allow other potential hop farmers to see a future in South Dakota grown hops the scale needed to be set up for distribution with proper processing techniques.

### **Project Approach**

Starting a hop yard was not an easy task. I began by designing the trellis system and ordering all of the supplies including but not limited to poles, irrigation supplies, hop rhizomes, and galvanized aircraft cable.

I was also informed by the state that when other growers first began that they first planted rhizomes suffered from a late freeze and a large storm in which many did not make it, I was strongly encouraged to greenhouse the rhizomes to ensure that would not happen again. I began by buying 2,000 rhizomes, a greenhouse, potting bags, and potting soil at a cost of. Green housing the hop plants did not work well for us and was extremely costly. Although I had a great germination of about 85% many of the plants grew together and were damaged in the greenhouse and during the transplanting phase from the bags to the farm I had a significant loss in the number of plants. Overall I had originally bought 1,000 Nugget rhizomes and 1,000 Chinook rhizomes, the Nugget acre at the end of the first year totaled only 646 plants for a survival rate of 64.6%. The Chinook acre did not do as well with only 554 plants surviving, only 55.4%. I would not recommend this method to anyone interested in growing hops, it damaged the plants and significantly damaged the production rate of the acres.

Building the trellis system was the next step, the trellis system consists of 80 poles per acre set up in a grid with interlocking galvanized aircraft cable to ensure the durability of the design. Each pole is in the ground at least four feet and each outside perimeter pole is set at a ten degree angle. Each row and column are anchored down on every side with four foot ground anchors and turnbuckles. The set-up of the trellis system took 3 weeks to complete. The trellis design is great it has currently held up for two years and it has not moved at all. I would suggest that rather than running one cable down each row there are two cables so each plant can get the maximum sunlight, airflow and to ensure that the hops do not grow together.

Sisal twine was strung from the top of the trellis system to the ground for the hops to grow up however, upon further research I discovered that stringing twine to first year plants is not a good way ensure proper root growth. I would not recommend a first time farmer to string twine, instead let the plant focus on producing a solid root system and the production rate the second year will be much higher.

The irrigation set up was the last step of the hop yard that needed to be completed. Luckily Minnehaha Rural Water allowed for the farm to tap onto rural water and irrigate the crop that way. Setting up the irrigation was fairly simple, each plant has its own drip emitter and the irrigation is able to water the plants at a rate of one gallon per hour. With the unexpected drought of 2012 the irrigation system and rural water availability completely saved the entire hop crop from dying. I would highly recommend that water be available on site of any future farm and a drip irrigation is a must in order to adequately provide water to each plant.

Harvesting was a trick the first year with very few choices of harvesting equipment. Another hops grower in the state generously let Anderson Hop Farm use the picker the SCBGP funded. First year hop plants rarely produce any sort of crop however, with South Dakota soil and a readily available water source, the hop plants produced cones and they were able to be sold and brewed with by microbreweries in the state.

Anderson Hop Farm hosted a field day in June 2013 in participation with the SDSU Extension Office. SDSU Extension office informed the public of the field day, we also had a posting on Anderson Hop Farm's facebook page. During the field day, we toured the farm and discussed several growing practices. Throughout the field day we discussed trellis systems, irrigation needs, fertilizer needs, types and varieties of hops grown, soil needs and cost projections including all purchased supplies. The field day had undesirable weather however we were able to have 20 people in attendance.

### **Goals and Outcomes Achieved**

| <b>Goal</b>   | <b>Target</b> | <b>Actual Results</b> |
|---|---------------|-----------------------|
| Host a field day at the farm in cooperation with SDSU Extension | 50            | 20                    |
| Assist other new hop growers get started in growing hops        | 2             | 1                     |

Of the 20 attendees, 9 of them filled out a survey during the field day. 1 person indicated that they definitely had plans to start growing hops. 2 additional people stated that they are considering growing hops.

Anderson Hop Farm was able to help another hop grower in South Dakota this year get started. The new hop farm is located by Lennox South Dakota. Anderson Hop Farm acted as a sounding board for the new farm, providing proven growing techniques, fertilizer recommendations, pest management practices and basic construction methods of the trellis system.

Hop plants take up to 4 years to mature completely, the first year's harvest was unexpected and welcomed because it gave microbreweries in the state a chance to obtain correctly processed South Dakotan hops as well as sparked an interest in the hop market for future farmers.

Although Anderson Hop Farm was able to achieve a production from first year plants there were many basic production practices that were overlooked and that were learned from. Going forward in the hop business there needs to be a clear and concise pest management system, nutrient management system and weed management system in order for the hops to reach optimal production rates. These management systems will help ensure that when new hop farmers get into the business that there are tested, proven results to enhance the production of the crop that has been specifically catered to South Dakota.

Last year Anderson Hop Farm sold the entire crop to South Dakota microbreweries thus reducing the amount of hops purchased outside of the state and retaining a percentage of the hop market within South Dakota. Anderson Hop Farm produced a total of 30 pounds dry hops of Chinook and Nugget, we sold each pound for \$10.00 resulting in \$300 income. 28% of the overall project was funded by SCBGP, so of that income, \$84 is program income under the SCBGP. This \$84 will be used to continue to reach out to new hop growers and share the information we've learned with other growers.

### **Beneficiaries**

There has been a significant interest in growing hops. There is currently one new grower of hops in the state and he started in 2013, Anderson Hop Farm is working closely with him to show him basic production methods that need to be followed as well as providing him information on pests and weed management to ensure the outcome of his hops. Anderson Hop Farm is also talking with three other potential new hop growers in the state and helping with as much as they need.

### **Lessons Learned**

Throughout the 2012 growing season Anderson Hop Farm learned many different aspects of hop production in South Dakota. Green housing hops is not a desirable growing technique due to the aggressive growing nature of the hop plant. Transplanting hops from the greenhouse to the farm is also not an easy task, the hops plant is very fragile early on and can easily break off when handled. Fertilizing 1,200 plants by hand was infeasible due to the mass amount of fertilizer needed as well as the number of plants on the farm. Having a drip irrigation system for hop plants is essential, without a drip irrigation system it would be difficult to correctly water hop plants. Hop plants require an enormous amount of water in a growing season. Hop plants grow well up sisal twine, this twine is coarse and the "j hook" hairs on the hop plant adhere nicely to the twine. However, first year plants should focus solely on establishing a root system, we will not string twine on first year plants again. Harvesting by hand is not possible once the plants mature and without a proper hop picker growing hops on a large scale is not feasible. A quality picker is around \$55,000; there are smaller hop pickers but they are not capable of picking any significant quantity of hops. Selling hops is practically impossible when they are a whole leaf product, specialized equipment is required in order to provide consumers with the product they want to buy.

### **Additional Information**

We have a Facebook page and it is under Anderson Hop Farm.



## **Project 10**

**Title** Fruit and Vegetable Intervention

**Sungrantee** – South Dakota Department of Health

**Contact Person** – Larissa Skjonsberg | 605-773-2171 | [larissa.skjonsberg@state.sd.us](mailto:larissa.skjonsberg@state.sd.us)

**Final Report**(Previously Submitted Final Report)

### **Project Summary**

South Dakota continues to be affected by heart disease, cancer, and cardiovascular diseases, which are greatly attributable to obesity. Furthermore, obesity continues to be a major health issue as it is in the rest of the nation.

According to the 2010 South Dakota (SD) Behavioral Risk Factor Surveillance System (BRFSS) adults continue to have high rates of overweight and obese that is now similar to the national average. The prevalence of obese adults is 27.7% while the total overweight and obese percentage for South Dakota is now 65.7%. There is an existing body of nationally based research pointing to fruit and vegetable consumption patterns which identifies South Dakota as having the lowest percentage of adults consuming vegetables, one of the lowest fruit intake percentages, as well as a downward trend over the last ten years.

The South Dakota Department of Health Nutrition and Physical Activity program received funds from the 2011 SCBG as well as other public and foundation grants to perform a formative assessment of South Dakota adults to understand the barriers of low consumption rates of fruits and vegetables. In addition, DOH is funding a fruit and vegetable system review by SDSU Cooperative Extension. The information collected from the assessments would assist in the identification of specific resistance points among South Dakotans and be a catalyst for the development of interventions to improve consumption of fruits and vegetables in South Dakota.

## **Project Approach**

All of the activities identified in the workplan have been implemented. We formed a stakeholder group to write a plan focused on increasing the consumption of fruits and vegetables, especially those that are South Dakota grown. Two fruit and vegetable partners meetings were held to discuss the formative assessment and identify an intervention to promote fruit and vegetables statewide.

The plan written was very informal. The stakeholders group identified one objective to increase fruits and vegetable consumption in South Dakota and included strategies to support the objective. The plan included activities such as 1. increase farm-to-school programs, 2. expand Harvest of the Month, 3. write articles to be included in organization/worksites/etc newsletters, 4. expand childcare fitCare curriculum to include more fruit and vegetable lesson plans, 5. Utilize social media to educate and bring awareness 6. Work with farmers' markets to provide educational materials and recipes to consumers 7. Partner with SDSU Extension to produce and promote materials on fruit and vegetable selection, prep, and recipes. 8. Partner with Buy Fresh Buy Local organization 9. Provide funding and training support community gardens, school gardens, farmers markets

The partners agreed that expanding the SD Harvest of the Month program statewide and enhancing the website, along with developing additional lessons for other age groups would not only promote increased fruit and vegetables in youth but also with adults as parents and/or caregivers of the children participating in the program. The program had already been developed and piloted in Pierre elementary schools so much of the foundation for the program had been built.

Partners involved in the project were influential in looking at the data gleaned from the fruit and vegetable formative assessment and identifying a priority area or intervention to implement statewide with the intent to change the trend of fruit and vegetable consumption. The intervention selected was to enhance the existing South Dakota Harvest of the Month program.

Harvest of the Month is an educational program designed to help South Dakotans add more fruit and vegetables to their daily routine more often - at home, at work, at school, and everywhere in between!

Harvest of the Month is a versatile teaching program that can be used by parents and educators to help kids get excited about eating more fruits and vegetables!

Each fruit and vegetable featured on the website comes with a set of educational materials to make learning and sharing tasty and fun. Search by **food** or **season** for quick and easy access to the materials you are looking for.

### **Each presentation includes:**

- Fruit or vegetable history
- Peak seasons
- Vitamins & minerals
- How to find it at the store

### **Users also get:**

- Presenter outline



- PowerPoint for students
- Presenter talking points that follow the PowerPoint for students
- Stickers of the featured fruit
- Student handout with recipes that can be taken home

These materials, combined with produce sampling in the classroom, make fruit and veggies interesting and fun. Kids get to play with new tastes and different textures, bring home ideas to use in the kitchen, and have a reason to ask for more fruit and vegetables.

The Harvest of the Month website was enhanced by completely revamping it to be more user-friendly and visually appealing. We also added a user login with password function so we could track the number of users and what setting the lessons were being used.

[www.sdharvestofthemonth.org](http://www.sdharvestofthemonth.org)

Originally there were 17 school-aged lesson plans with 17 more being added to school-age lesson plan. We have also added 34 Out-of School Time lessons, 34 Pre-Kindergarten (In-Class) lessons, and 34 Pre-K (Home- visit) lessons.

New schools were recruited by inviting them to the HOM trainings, promotion of the program at state conferences for school administrators, school nurses, South Dakota APHERD, early education directors conference, and teachers association conference. We also worked with Team Nutrition to offer mini-grant opportunities to schools. We promoted the program on our social media sites, Healthy SD website, and provided information to our partners who then shared with their local community members and on their websites. We also wrote several articles highlighting the program which was included in the School Height and Weight Summary report and Municipal League quarterly publication.

Our key partners, South Dakota Discovery Center, Team Nutrition, and SDSU Extension, were very helpful in assisting with “advertising” the program as well and educated the public through their organization’s newsletter and publications.

### Goals and Outcomes Achieved

| Goal  | Target   | Actual Result  |
|---|--|--|
| Increase Harvest of the Month program to additional sites | 10% increase in number of schools implementing HOM program | There were 4 pilot schools at the beginning of the project and 28 schools in 2012-2013 participating in HOM. |

The number of users who have signed up to utilize the HOM lesson plans had increased thus increasing the number of hits. Enhancing the website provided a more user friendly system of accessing the lesson plans. By making it more streamlined and simpler to get the lesson plans, has attracted more users to the site. One of the frequent complaints we heard prior to the website upgrade was how difficult it was to find lesson plans and users didn’t feel the old site was very organized. This frustration we feel combined with a lack of promotion of the program is the reason for low participation numbers prior to the new website.

Long term goals for fruit and vegetable consumption are:

Baseline: Fruit 2011: 26.3% - Veggies 2011: 9.4%

Changes: Outcome goal increase fruit intake to 28% and increase vegetable intake to 11%.

This goal is what we intend or hope to increase our consumption rate to. Increase to 28% the number of South Dakotans consuming fruits; Increase to 11% the number of South Dakotans consuming vegetables. These figures were derived from BRFSS data we have collected on fruit and vegetable consumption in our state. Fruit and Vegetable questions are asked on odd years. The goal we set is what we are hoping to achieve after the data has been analyzed from the 2013 BRFSS report. **\*\*NOTE & REMINDER:** The change of the percentages occurred because the methodology of collecting fruit and vegetable data on BRFSS changed in 2011 so we could no longer use the original percentages that we had selected for our outcome goals when we wrote the grant because the new figures had not yet been released to us.

## **Beneficiaries**

Potentially all South Dakotans could be affected as the Department of Health's (DOH) Nutrition and Physical Activity Program (also known as Healthy South Dakota) is open to all. The workplan will encompass all populations as many of our partners work with various groups such as youth, adults, and Native Americans for example. DOH anticipates leading specific projects targeted at specific populations while other partners will lead other efforts. As a result, the general public will benefit as we encourage increased fruit and vegetable intake which benefits overall health. The initiative and our continued efforts to educate and inform consumers can help increase the sales of South Dakota grown produce and bring additional revenue to our growers, retailers, and state.

In April 2013, evaluation of HOM program conducted utilizing an online survey. A total of 55 HOM participants completed the survey. Survey findings offered initial insight as to the success and barriers of the first year of statewide HOM implementation. 29 survey participants reported using HOM materials in a school setting. 80% used HOM in an elementary school, 7% in a middle school, and 13% in a high school. Of those who identified their school roles, 15 teachers, 5 school officials (counselor, principal, health official, secretary, food service manager), and 6 parent/Teens as Teachers/community volunteer provided the HOM instruction.

## **Lessons Learned**

From what we were able to gather from the survey we took of participants, lessons learned included:

- 80% of survey participants stated they were "very satisfied" with HOM materials, participants offered suggestions as to program improvement, including:
  - increasing website font size,
  - including more lessons plans (rhubarb, mango, orange, cauliflower),
  - creating "age-appropriate" materials for ALL age groups and
  - creating a blog on the website for instructors to share best practices in HOM instruction. (\*NOTE: At the time of the survey we had not yet completed the early education or Pre-K lesson plans. )

We also feel that our partners are a strong asset to HOM promotion and that we need to continue to draw partner input in the creation and dissemination of HOM materials in order to obtain the greatest reach for HOM impact.

## **Additional Information**

Without support from the awarded SCBGP, DOH and partners will continue working on enhancements to the Harvest of the Month program. Plans are underway to include a grocer component that will provide guidance to grocers implementing the Harvest of the Month project. A key partner, the SD Discovery Center will also be attending several state conferences this coming year to promote the program. Finally, our contracted media firm will be placing additional components and resources on the Harvest of the Month website directed to early education and/or daycare teachers.

## **Project 11**

**Title –** Buy Fresh Buy Local South Dakota

**Subgrantee -** Buy Fresh Buy Local South Dakota

**Contact Person –** Pat Garrity | 605-660-1034 | garrity@iw.net

### **Final Report**(Previously Submitted Final Report)

#### **Project Summary**

*Buy Fresh Buy Local South Dakota* provides technical, promotion and organizing skills to establish Farmers Markets in rural and reservation communities in South Dakota.

#### **Project Approach**

Buy Fresh Buy Local SD (BFBLSD) assisted Wagner, White River, Kyle, Eagle Butte and Murdo farmers market specialty crop producers. The communities of Wagner and Murdo have received promotional materials to promote the market site and market days. The communities of White River, Kyle and Eagle Butte are scheduled to receive their promotional materials in 2014 / 2015. Assistance is also provided to Mission and Fort Thompson to develop farmer's market specialty crop producers. The farmers markets are utilizing marketing materials to promote the specialty crop producers.

The promotion concept is to identify farmer's market location with signage stating the market days, hours and location to allow customers to identify market details on a continuous basis. The survey will be used as baseline to evaluate the effectiveness of market site promotion. The next few years of data will allow a review farmers market activity to develop a promotion program for specialty crop producers.

#### **Goals and Outcomes Achieved**

A survey at the conclusion of the 2013 specialty crop farmers market season to measure market participation:

| Farmers Market Name        | Number of markets / season | Number of specialty crop vendors / season | Number market customers / season | Gross specialty crop market sales / season |
|----------------------------|----------------------------|---|----------------------------------|--|
| Murdo Farmers Market       | 8                          | 7   | 216                              | \$1,950.00                                 |
| White River Farmers Market | 6                          | 6   | 96                               | \$850.00                                   |
| Wagner Farmers Market      | 10                         | 12  | 350                              | \$3,000.00                                 |

Buy Fresh Buy Local SD partnership with Dakota Rural Action provides financial assistance for the SD Local Foods Guide. The guide is an excellent publication with statewide coverage of all local specialty crop producers. The guide is a requirement for BFBLSD organization, but a decision was reached not to duplicate services and cooperate with the existing publication. Please see the link [SD Local Specialty Crops guide](#) for details and view the food guide.

Buy Fresh Buy Local SD also maintained and financed the BFBLSD.org website to provide timely information and updates regarding specialty crops in South Dakota.

### **Beneficiaries**

The main beneficiary is the specialty crop producer. The citizens of the rural or reservation community also benefit by efforts to increase consumption of local foods throughout South Dakota. Each market needs dependable supply, reasonable profit, constant quality and good promotion, all goals of the *Buy Fresh Buy Local SD*.

### **Lessons Learned**

The strongest barrier regarding farmers markets in very rural areas is developing relationships with the community leadership. Technology is not readily available in many of the communities and that requires onsite visits / long time frame correspondence to provide the assistances as required by the grant goal: Increase technical, promotion and organizing skills for specialty crops at rural and reservation community farmers markets in South Dakota.

### **Any Additional Information**

BFBLSD will continue to provide assistance to the communities currently using the promotional materials and concentrate on start up efforts for Mission and Fort Thompson.

The current survey will be used as baseline to evaluate the effectiveness of market site promotion. The next few years of data will provide a review of farmers market activity to develop a promotion program for specialty crop producers. The data will become more valid after a few years of collection and as we add the additional farmers markets.

## **Project 12**

**Title –** Seasonal Eating: Educate and Encourage

**Sungrantee –** Vermillion Area Farmers Market

### **Final Report**

## **Project Summary**

This project consisted of outreach to educate the community and provide additional produce to the community. Activities occurred on- and off-site. Poor diet and physical inactivity are associated with serious health conditions and overweight/obesity. The USDA and US Department of Health and Human Services list fruits and vegetables among the foods to increase for adequate nutrition and overall health. We addressed this concern with a project to

build healthy eating patterns and make sure that adequate, local, healthy food choices are available.

In our community, surveys indicated that people were hesitant to try fruits and vegetables because they were unfamiliar with many and did not know how to prepare them. Fruit and vegetable purchases were limited. The project focused on fruits and vegetables as the staple and primary purchases of our farmers market. The education, and advertising programs were designed to attract more customers to fruit and vegetables by advertising their availability and educating on their purchase, preparation, and preservation.

## **Project Approach**

The overall goal was to increase child and adult nutrition knowledge and consumption of specialty crops through education and advertising. Activities included education at the market for customers. These sessions addressed what is in season now, how to purchase, store, prepare, and preserve it. We included cooking demonstrations with recipes, two Iron Chef VAFM competitions in which local chefs had to cook at market with produce purchased there, with a \$20 budget. The Iron Chef competitions were very well received. Customer comments included how much they enjoyed them. Vendors commented that they saw an increase in sales of the produce used by competitors. Based on these experiences, we invited growers to offer tastings of fruits and vegetables. One particularly well-attended tasting included tasting dozens of heirloom tomatoes, comparing and contrasting flavors, textures and appearance. We saw Facebook posts on our page promoting ugly tomatoes immediately after the tasting. Vendors commented, in the weeks following, that customers were willing to buy atypical-looking tomatoes.

Off site, we advertised seasonal produce by purchasing a banner to hang changing out the produce each month to reflect what was fresh that season. We ran into one snag when our shed was vandalized. We had to repair the shed in order to provide a place to store a banner and other goods. Once repaired, we purchased the banner. Flyers and monthly newspaper ads advertised seasonal produce and the above-mentioned educational sessions.

We are especially proud that the number of customers buying fruits and vegetables tracked through the market manager was 1.5 times greater in 2014 from 2012. The winter season saw varied results. The 2013-14 season saw 2.7 times the produce patrons of the 2011 season. The 2012-13 had a record number of patrons. In terms of amount of money spent (as an indicator of the amount purchased), we saw a steady increase across the grant period, with a corresponding exceptional high in winter 2013. Winter sales of fresh produce are expected to be low, considering the South Dakota growing season. We have encouraged vendors to grow crops that can be stored (e.g., potatoes, onions) and sold in the winter and also to utilize season extension techniques like row covers and tunnels. The 2015 winter market survey was the first time patrons have not commented that we need more produce at the winter markets!

We partnered with the Clay County Fair who offered use of the outdoor space for the summer market without charge and offered a greatly reduced rate on rental of their facility for the winter markets. The City of Vermillion allowed us to use the plaza for the summer Saturday markets. In return, we hosted activities during the county fair, including a farmers market and also an Iron Chef competition. Without their support, the markets would not have been as successful as they were.

## **Goals and Outcomes Achieved**

We completed market education on site to increase understanding of seasonality and what produce was available when, how to pick it, prepare it and preserve it. We advertised seasonal produce in newspapers, on new banners, and on posters to increase knowledge and also increase the number of sales of fruits and vegetables as well as the dollar amount of sales of produce. We provide longitudinal data addressing the project goals below. The number of customers buying fresh produce at market increased 2.125% from 2011 to 2014. The dollar amount of sales showed a steady increase across this time period.

Customer knowledge of seasonal produce also increased.

| Goal  | Performance Measure  | Target   | Progress Toward Target August 2013  | Progress Toward Target 2014   |
|---|--|--|---|---|
| Increase number of sales of fruits and vegetables                           | Number of customers buying fruits and vegetables through the market manager (through SNAP or debit card) | Increase by 10 per year in summer and 2 per year in winter   | The summer season has not yet ended, so we do not have complete data, but preliminary data indicate that we will reach this target for summer 2013  | Summer 2012: 243<br>Summer 2013: 367 (well exceeded)<br><br>Winter 2012: 57<br>Winter 2013: 54  |
| Increase amount of sales of fruits and vegetables                           |  | Increase by 1.5 times in 3 years   | We do not yet have complete data, but are gathering data on amount of sale  | Summer 2012: \$4059.85<br>Summer 2013: \$5034.13<br>Increased by 1.24 times in 1 year.<br>On track  |
| Increase customer knowledge of seasonal produce: buying, storing, preparing | Customer surveys conducted twice per year  | At least 50% of respondents indicate above average knowledge of "what to do with" seasonal produce | We plan to survey customers at the end of September (nearing the end of the summer markets). Preliminary interviews with customers are mixed; some say they are more comfortable buying and using a variety of produce while others say they will only purchase and use what is familiar to them. | On a 4-point scale, we considered a rating of 3 or 4 as above average.<br><br>At the end of the 2013 summer market season, 90.91% of respondents could identify what was available seasonally (rating of 3 or 4)<br><br>90.47% could prepare seasonal produce (rating of 3 or 4)<br><br>26.32% could preserve (can, freeze, place in dry storage; rating of 3 or 4) This is an area for improvement |

**Number of customers buying fresh produce (not including value-added)**

|                    | <b>Summer Seasons*</b> |                        |                        |                        |
|--------------------|------------------------|------------------------|------------------------|------------------------|
|                    | <b>SUMMER<br/>2011</b> | <b>SUMMER<br/>2012</b> | <b>SUMMER<br/>2013</b> | <b>SUMMER<br/>2014</b> |
| <b># customers</b> | 160                    | 221                    | 346                    | 340                    |

|                    | <b>Winter Seasons*</b> |                        |                        |
|--------------------|------------------------|------------------------|------------------------|
|                    | <b>WINTER<br/>2011</b> | <b>WINTER<br/>2012</b> | <b>WINTER<br/>2013</b> |
| <b># customers</b> | 14                     | 48                     | 38                     |

**Amount of money spent on produce\*.**

| <b>Season</b>      | <b>\$</b>  |
|--------------------|------------|
| <b>SUMMER 2011</b> | \$3,688.98 |
| <b>SUMMER 2012</b> | \$3,570.87 |
| <b>SUMMER 2013</b> | \$4,307.45 |
| <b>SUMMER 2014</b> | \$4,432.17 |
| <b>WINTER 2011</b> | \$223.00   |
| <b>WINTER 2012</b> | \$661.40   |
| <b>WINTER 2013</b> | \$380.66   |

\*Note: these values represent only fresh produce that has not been processed or otherwise had value added.

Compared to focus group responses where most said they do not try new things at the market prior to this grant project:

In 2013, 100% said they tried new produce, and

In 2014, 78% said they tried new produce.

Almost 50% of respondents said they attended an at-market education. Given that market education was held for one hour during the 4-hour market, we were thrilled at this response. In 2013, 48% attended and 45.3% in 2014.

**Beneficiaries**

- Provide a description of the groups and other operations that benefited from the completion of this project's accomplishments.
- Clearly state the quantitative data that concerns the beneficiaries affected by the project's accomplishments and/or the potential economic impact of the project.

There were two direct beneficiaries – the customers and the vendors. The customers benefitted from increased consumption of fruits and vegetables. This can translate to improved health and wellness. Vendors benefit economically from increased sales. These are not independent



benefits. As vendor sales increase, they are encouraged to remain at the VAFM. It also encourages other vendors to come to the market. This, in turn, leads to increased availability of fresh fruits and vegetables to consumers. The amount of sales was reported above, with a clear increase across time.

It has been shown that farmers markets contribute to local economies. The improved sales at market would have an impact on the local community, as well. Improved health and wellness would lessen the burden of health care. Increased vendor sales means money remains local. It also leads to increased economic activity in the region, as vendors also purchase goods locally. We see this on market days. Vendors are seen shopping in local stores both before and after the markets.

## **Lessons Learned**

We found that customers were mostly hesitant to try new foods. However, if they were given the opportunity to taste the new produce, and were shown how to prepare it, then they were more open to trying it. We will continue market education with an increased emphasis on opportunities to taste seasonal produce and lessons on how to prepare it. We will prepare more foods on site in cooking demonstrations, and provide recipes.

However, market education was not wholly successful. When we had a market education tent operating for the full 4 hours of the market, it went ignored. When we reduced the time to just 5:30-6:30, then people stopped, talked, and took advantage of the opportunity. At least at our market, operating market education during peak periods when people know they have a limited time to visit, increased attendance and impact.

What can be taught directly at market is limited to what we can show in a brief period of time, with a grill, in an outdoor forum. We would like to add longer classes on cooking techniques and preserving at the Armory kitchen. Offering classes for a longer period of time, in a full kitchen will afford us the opportunity to share more complicated techniques, especially food preservation.

We tried to emphasize what produce was seasonal. At the end of the 2014 summer season, we interviewed vendors. They commented that they had fewer people asking them if they had certain produce after its season, and even fewer people asking why. We think the added advertising helped people learn that certain things were available at certain times. With a list in the newspaper, on posters, and on a banner, they knew what to expect at any given time. What we didn't do, though, was let people know what to expect and when. We focused on what was available at that time, but didn't emphasize what to expect next. Vendors said that people still asked when they would have certain produce. For example, several commented that they had numerous patrons ask when they would have sweet corn and tomatoes and the questions started in May, months before the produce would be ready. In a future project, we plan to provide planners of what is available at what time – what is available now and what will be next, to help in planning.

One mistake we made was to assume that the same people who shopped at the summer markets, also shopped at the winter markets. A winter 2015 survey of customers indicated that only 71% felt they could identify what produce was available seasonally, compared to 91% at the end of the summer. However, 61% could can, freeze, store or otherwise preserve produces,

compared to 26% in summer. Given these differences, we will need to differentiate the market education for summer and winter patrons.

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